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U. S. DEPARTMENT OF AGRICULTURE.
BUREAU OF PLANT INDUSTRY—BULLETIN NO. 137.
B. T. GALLOWAY, *Chief of Bureau.*

SEEDS AND PLANTS IMPORTED

DURING THE PERIOD FROM JANUARY 1 TO MARCH 31, 1908:

INVENTORY No. 14; Nos. 21732 TO 22510.

ISSUED JANUARY 9, 1909.

42

WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1909.

BULLETINS OF THE BUREAU OF PLANT INDUSTRY.

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[Continued on page 3 of cover.]

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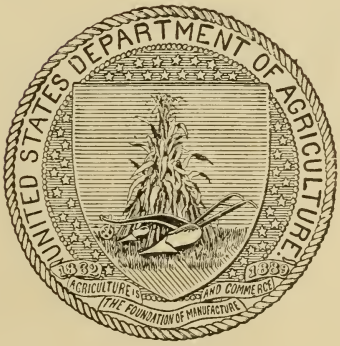

WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1909.

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FOREIGN SEED AND PLANT INTRODUCTION.

SCIENTIFIC STAFF.

David Fairchild, *Agricultural Explorer in Charge.*

Frank N. Meyer and William D. Hills, *Agricultural Explorers.*
Albert Mann, *Expert in Charge of Special Barley Investigations.*
F. W. Clarke, *Special Agent in Charge of Matting-Rush Investigations.*
Frederic Chisolm, *Expert.*
Walter Fischer, R. A. Young, and H. C. Skeels, *Scientific Assistants.*

LETTER OF TRANSMITTAL.

U. S. Department of Agriculture.
Bureau of Plant Industry,
Office of the Chief,
Washington, D. C., October 5, 1908.

Sir: I have the honor to transmit herewith and to recommend for publication as Bulletin No. 137 of the series of this Bureau, the accompanying manuscript, entitled "Seeds and Plants Imported During the Period from January 1 to March 31, 1908: Inventory No. 14; Nos. 21732 to 22510."

This manuscript has been submitted by the Agricultural Explorer in Charge of Foreign Seed and Plant Introduction with a view to publication.

Respectfully,

B. T. Galloway,
Chief of Bureau.

Hon. James Wilson,
Secretary of Agriculture.

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SEEDS AND PLANTS IMPORTED DURING THE PERIOD FROM JANUARY 1 TO MARCH 31, 1908: INVENTORY NO. 14; NOS. 21732 TO 22510.

INTRODUCTORY STATEMENT.

With this fourteenth inventory of seeds and plants imported from abroad is inaugurated a new departure. The volume of interesting matter pertaining to these new introductions has become so great and the desirability of getting out printed descriptions for the use of those handling them is so apparent that it has been decided to issue the inventory as soon as possible after each period of three months of introduction work.

This plan, it is believed, will interest the friends of these new immigrants and insure them better attention in the homes which are being created for them in America.

Since January 1, 778 introductions have come in, i. e., at the rate of more than 8 a day, and among these it is worth while to call attention to certain ones which are of unusual interest.

Mr. Frank N. Meyer has continued his explorations in northern China and this inventory contains 179 of his introductions. Among them are some remarkable wild chestnuts, wild walnuts, oaks, crab apples, and pears from the Chihli Province; seeds of the original chrysanthemum from which most of the cultivated forms are supposed to have originated; a collection of apples and pears from Pangshan; several elms of some promise; *Pyrus betulaefolia*, the species on which in China the native pears are grafted and which distinguishes itself as easily grown from cuttings; and the Fei-tao peach of Feitcheng, which is known all over North China as the finest peach in the Empire. It is a clingstone, and individual fruits in the dry region of the Shantung Province attain a weight of 1 pound. Possibly this is the Chinese Cling already known in America, although such extraordinary fruits are not produced in this country, and this may be an entirely new and most valuable addition to the peaches of the United States.

Perhaps the most remarkable of all of Mr. Meyer's finds are the Chinese dates, which, by the way, are not dates at all, but delicious fruits borne on deciduous trees (*Zizyphus sativa*) which will stand drought remarkably well. In the Shantung Province there appear to be as many kinds of these fruits as there are of plums in America. Large orchards of the plants are grown there, and the specimens of fruits which Mr. Meyer has sent in encourage us to think that they may vie with the real date as an orchard culture in the dry West where they can be grown. Good judges of fruit have not hesitated to pronounce the samples sent in as equal in delicacy to, though entirely different from, the finest dates. The Office of Plant Life History Investigations has the development of this new industry on its programme for the coming year.

An interesting dry-land naked oat, some new buckwheats, a new stock for the peach (*Amygdalus davidiana*), new and most interesting sorghums, more forms of the Chinese hardy persimmon, a horse-chestnut that is evidently new to the country and may be a superior shade tree, new drought-resistant cherries, and one or perhaps two new yellow roses, for which the rose breeders are already clamoring, are others of Mr. Meyer's finds.

Among the importations which have come in through our foreign correspondents, the following may be especially emphasized: A shipment of cork-oak acorns from Spain; a collection of Rheums from Russia for the rhubarb breeders; seeds of the Chilgoza pine, a remarkable nut-bearing pine from Baluchistan; the Grano Marzuolo, a variety of dwarf wheat used in Italy for the plaiting industry; the Amoy pomelo; the wild emmer, a remarkable new grain from Palestine; large collections of cowpeas and sorghums from the Orient; the Guayaquil pineapple from Ecuador; the nut oak (*Quercus cornea*) from Hongkong; an African asparagus for the asparagus breeders; the wild licorice of Greece; a collection of taros from Hawaii; a collection of 215 varieties of tobacco, the most generous gift of the noted tobacco expert, Prof. Dr. O. Comes, of the Agricultural School of Portici, Italy (doubtless the largest collection of tobaccos ever gotten together); wild olives and pistaches from Baluchistan; and a collection of Japanese radishes.

Botanists will note that an attempt is made in this inventory to name each introduction and give the botanical authority for the name. Anyone familiar with such work will realize that it is not possible to do this with absolute accuracy, as often only seeds or cuttings are at the disposal of the determining botanist. Mr. W. F. Wight and, under his direction, Mr. H. C. Skeels have been given charge of this feature of the inventory, and with Miss Mary A. Austin responsible for the preparation of the inventory cards it is believed that in the

future these inventories of newly imported plants will not only be more accurate, but will contain more useful information and will appear more promptly than in the past, and in this way become of much more value to the experimenters who are studying the new things as they come in.

DAVID FAIRCHILD,
Agricultural Explorer in Charge.

OFFICE OF FOREIGN SEED AND PLANT INTRODUCTION,
Washington, D. C., September 14, 1908.

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INVENTORY.

21732. Quercus suber L. **Cork oak.**

From Gibraltar, Spain. Procured by Hon. R. L. Sprague, American consul. Received December 30, 1907.

"Seed imported for experiments in the introduction of the cork oak in the Southern States and California." *(Fisher.)*

21733. Trifolium subrotundum Steud. & Hochst.

From Kisumu, British East Africa. Presented by Mr. Arthur B. Chilson. Received December 26, 1907.

"African clover. This grew 5,300 feet above sea level, 8 miles north of the equator, about 20 miles northeast of Lake Victoria. I have never found it growing lower than 4,000 feet above sea level. This is a very hardy variety of clover able to stand extremes of dry and wet weather. It sometimes grows to a height of 2 feet, but is usually much shorter. The blossom is red with often a slight mixture of white; smaller than the red-topped variety in America, but larger than the white clover." *(Chilson.)*

"In Abyssinia cultivated as forage under the name of 'Mayad.'" *(Oliver, D., Flora of Tropical Africa, 1871, vol. 2, p. 59.)*

21734. Rosa hugonis Hemsl.

From Paris, France. Purchased from Vilmorin-Andrieux & Co. Received January 3, 1908.

21735. Medicago sativa L. **Alfalfa.**

From Alma, Nebr. Purchased from Mr. Conrad Boehler. Received January 6, 1908.

Grimm. Grown from S. P. I. No. 12991. Grown especially for the Department, under direction of Forage Crop Investigations, by Mr. Conrad Boehler.

21736. Panicum obtusum H. B. K.

From Roswell, N. Mex. Collected on special order by the Roswell Seed Company. Received January 6, 1908.

"A native grass especially abundant in low or moist soil. It should be tested under irrigation, as it promises to give several cuttings each season." *(C. V. Piper.)*

21737 to 21749.

From Kew, England. Presented by Dr. David Prain, director, Royal Botanic Garden. Received December 31, 1907.

Cuttings of the following:

21737 to 21740. Rosa spp. **Rose.**

21737. *Helene.*
21738. *Electra.*
21739. *Una.*
21740. *Austrian Copper Briar.*

21737 to 21749—Continued.

21741. Rosa spinosissima L.

21742. Rosa sp.

21743. Rosa sericea Lindl.

21744. Rubus lasiostylus Focke.

21745. Rubus microphyllus L. f.

21746. Ribes cruentum Greene.

Seeds of the following:

21747. Rosa soulieana Crépin.

21748. Rubus crataegifolius Bunge.

21749. Ribes wolfii Rothr.

21750. Albizzia adianthifolia (Schum.) (Mimosa adianthifolia Schum.)

From Thornwood Estate, M'lanje, British Central Africa. Received from Mr. Henry Brown, through Mr. C. J. Petherick, No. 4 Trafalgar Square, London, England, January 6, 1908.

"A very fast growing, leguminous tree; table-topped, feathery leaved, and very suitable for shade for coffee, cocoa, tea, and other productions which may grow in America. The tree yields an excellent timber very like satin wood in the grain." (*Brown.*)

21751. Avena sterilis L. **Oat.**

From the Province of Ispahan, Persia. Presented by Mr. John Tyler, American consular agent, Teheran, Persia. Received September, 1907.

Porringe. "Seed of a wild oat they call *Porringe.* I should think the original of our 'porridge.' It is used the same as oatmeal." (*Tyler.*)

21752. Cucumis sativus L. **Cucumber.**

From Korea. Presented by the Yokohama Nursery Company, Yokohama, Japan. Received January 2, 1908.

"Said to be different from our variety." (*Yokohama Nursery Company.*)

21753. Phoenix ouseleyana Griff. (Phoenix humilis Royle.) **Date.**

From Sibpur, Calcutta, India. Presented by Capt. A. T. Gage, superintendent, Royal Botanic Garden. Received October 3, 1907.

"The *Phoenix humilis* above is the *P. humilis* of Royle (see Royle, Illust. Bot. Him.), and not *P. humilis* Cav. Ic., which is equivalent to *Chamaerops humilis* of the Mediterranean region." (*W. W. Smith.*)

21754 to 21757. Glycine hispida (Moench) Maxim. **Soy bean.**

From Paris, France. Purchased from Vilmorin-Andrieux & Co. Received January 3, 1908.

21754. Yellow seeded.

21755. *Ogemaw.* Extra early, brown seeded.

21756. Black seeded.

21757. Extra early, black seeded.

21758 to 21767. Rheum spp. Rhubarb.

From St. Petersburg, Russia. Presented by Dr. A. Fischer von Waldheim, director, Imperial Botanic Garden. Received January 6, 1908.

21758. Rheum rhaponticum L.

Queen Victoria.

21759. Rheum undulatum L.

21760. Rheum rhaponticum L.

21761. Rheum palmatum tanguticum Maxim.

21762. Rheum palmatum L.

Red flowered.

21763. Rheum australe Don.

21764. Rheum compactum L.

21765. Rheum palmatum atropurpureum.

21766. Rheum moorcroftianum Royle.

21767. Rheum acuminatum Hook. f. & Thomas.

21768 and 21769. Medicago sativa L. Alfalfa.

From Bassorah, Persian Gulf. Purchased from Mr. H. P. Chalk, agent for the Hills Brothers Company, New York. Received January 7, 1908.

Arabian alfalfa or *Jet.*

21768. Seed from unirrigated plants.

21769. Seed from irrigated plants.

21770 to 21778.

From French Guinea. Presented by M. Aug. Chevalier, 63 Rue de Buffon, Paris, France. Received January 10, 1908.

21770. Ipomoea batatas (L.) Poir. Sweet potato.

21771. Ipomoea batatas (L.) Poir. Sweet potato.

21772. Ipomoea batatas (L.) Poir. Sweet potato.

21773. Coleus sp.

21774. Coleus sp.

21775. Dioscorea bulbifera L.

21776. Musa sp. Banana.

21777. Xanthosoma sagittaefolium (L.) Schott. Yautia.

White.

21778. Xanthosoma sagittaefolium (L.) Schott. Yautia.

Rose.

21779. Citrus nobilis × vulgaris.

From Algiers, Algeria. Presented by Dr. L. Trabut, government botanist. Received January 9, 1908.

"Fruit large, mediocre, colored." (*Trabut.*)

21780 to 21782.

From Ichang, Hupeh, China. Secured by Mr. E. H. Wilson, of the Arnold Arboretum, Jamaica Plain, Mass., in cooperation with this Department. Received January, 1908.

21780 to 21782—Continued.

A collection of seeds, as follows:

21780. CANNABIS SATIVA L. **Hemp.**

"(No. 428, Dec. 8, 1907.) Seeds of a particularly robust form of this well-known hemp. This form of *Cannabis* is commonly cultivated in association with maize by peasants and farmers on the mountains north and south of Ichang at altitudes between 3,000 and 5,000 feet. The plants vary from 6 to 12 feet, and the lower part of the stem is often 4 inches in circumference.

"This plant is cultivated exclusively for the oil which is expressed from the seeds after grinding and steaming in the ordinary Chinese way. This oil is used for illuminating purposes and is valued on account of its noncongealing in the coldest of weather. The stems are used for fuel, though a little fiber is occasionally used for making sundries for local use.

"It is the *Tung ma* (cold hemp) of these parts." (*Wilson.*)

21781. ACTINIDIA CHINENSIS Planch. **Yangtaw.**

"(No. 347, Dec. 8, 1907.) A robust climber, 10 to 30 feet high; leaves and young shoots covered with bright crimson villous hairs. Flowers unisexual or hermaphrodite, buff-yellow to white, fragrant, 1 to 1½ inches across, produced in great profusion. Fruits abundantly produced, ovoid to globose, 1 to 2½ inches long, 1 to 1¼ inches across, epicarp membranous, russet-brown, more or less clothed with villous hairs. Flesh green, of most excellent flavor, to my palate akin to that of the common gooseberry but tempered with a flavor peculiarly its own.

"The plant is common in thickets and margins of woods from 3,000 to 4,000 feet high in western Hupeh and Szechuan. Also known from the Hushan Mountains in Kiangsi Province and from Fokien.

"The plant is highly ornamental, either in foliage or in flower. The fruits are excellent for either dessert or making into preserves.

"Introduced by me to the nurseries of Veitch & Sons, of Chelsea, London, and quite hardy in England.

"Local native name, *Yang tao* (strawberry peach)." (*Wilson.*)

21782. EUCOMMIA ULMOIDES Oliver. **Tu-chung.**

"(No. 383, Dec. 8, 1907.) Tree 25 to 40 feet by 1½ to 4 feet. Cultivated in western Hupeh and Szechuan at altitudes between 1,000 and 4,500 feet. The tree is valued for its bark, which constitutes the native drug *Tu-chung*. The bark, leaves, and fruit contain silky, elastic fibers composed largely of a caoutchouc-like substance akin to balata. As a rubber-producing plant, however, the plant has little value.

"Eucommia was introduced from China into France by Vilmorin and into England by myself. In both countries it has proved quite hardy. In Algiers and parts of Tonking this tree has been experimentally planted by the French as a rubber-producing tree.

"The medicine *Tu-chung* is valued as a tonic and mild aphrodisiac.

"The customs' valuation here is: First quality, 30 taels per picul; second quality, 20 taels per picul; third quality, 10 taels per picul." (*Wilson.*)

21783. BAUHINIA PICTA (H. B. K.) DC.

From Miami, Fla. Grown in 1907 at the Subtropical Laboratory and Garden from seed presented by Mr. J. C. Harvey, Sanborn, Vera Cruz, Mexico; distributed from Subtropical Laboratory and Garden.

"An unarmed shrub with nearly orbicular leaves, about 3½ inches long, and solitary terminal racemes, 2 to 3 inches long, of white flowers spotted with red." (*W. F. Wight.*)

21784 to 21805.

From Sibpur, Calcutta, India. Presented by Capt. A. T. Gage, superintendent, Royal Botanic Gardens. Received January 10, 1908.

21784 to 21805—Continued.

A collection of seeds, as follows:

21784. CICER ARIETINUM L. Chick-pea.
White seeded.

21785. CICER ARIETINUM L. Chick-pea.
Clay seeded.

21786. CICER ARIETINUM L. Chick-pea.

21787. PHASEOLUS RADIATUS L. Mung bean.

21788. PHASEOLUS RADIATUS L. Mung bean.

21789. PHASEOLUS RADIATUS L. Mung bean.

21790. PHASEOLUS PILOSUS H. B. K.

21791. VIGNA SESQUIPEDALIS (L.) W. F. Wight.
Lobia.

21792. VIGNA CATJANG (Burm.) Walp. Catjang.
Red podded.

21793. VIGNA UNGUICULATA (L.) Walp. Cowpea.
White.

21794. PISUM SATIVUM L. Pea.
White.

21795. PISUM SATIVUM L. Pea.

21796. LATHYRUS sp.

21797. SESBAN BISPINOSA (Jacq.) Steud. (AESCHYNOMENE BISPINOSA Jacq.)

21798. LAGENARIA VULGARIS Ser. Gourd.

21799. ABELMOSCHUS ESCULENTUS (L.) Moench.

21800. CARICA PAPAYA L. Papaw.

21801. BENINCASA CERIFERA Savi. Wax gourd.

21802. CUCUMIS SATIVUS L. Cucumber.

21803. CUCUMIS MELO L. Muskmelon.

21804. CUCURBITA PEPO L. Pumpkin.

21805. CITRULLUS VULGARIS Schrad. Apple-seeded watermelon.

21806. RAPHANUS SATIVUS L. Radish.

From Macassar, Celebes, Dutch East Indies. Presented by Mr. Wiebe P. de Jong, American consular agent. Received January 6, 1908.

21807. ANDROPOGON SORGHUM (L.) Brot. Sorghum.

From Descanso, Cal. Presented by Mr. E. P. St. John. Received January 9, 1908.

"*Roosevelt's Forty-Four.* A 'sport' selected from a field of *Amber* sorghum in 1905. Is a heavy stooler; lacks in sweetness, but has good fodder." (*St. John.*)

21808 and 21809.

From Pretoria, Transvaal. Presented by Mr. C. L. Legat, Conservator of Forests, Transvaal Department of Agriculture. Received January 14, 1908.

21808 and 21809—Continued.

21808. Bolusanthus speciosus (Bolus) Harms.

"This is an exceptionally beautiful tree, probably the handsomest native species we have. It should thrive well in any region where oranges grow." (*Legat.*)

21809. Trichilia emetica Vahl.

From Lower Umzimkulu, Natal. Collected by Miss Reid, September, 1907.

"A fine shade tree for comparatively frostless regions." (*Legat.*)

21810. Citrus nobilis Lour. Tangerine.

From Canton, Kwangtung, China. Presented by Dr. J. R. Huffaker, Brookfield, Mo. Received January 16, 1908.

"Seeds of the 'Golden orange,' so called by the Americans, and 'Honey orange' by the Chinese. The peel is quite loose, and sections easily separated, tender, very rich, juicy, and sweet." (*Huffaker.*)

21812. Cydonia japonica (Thunb.) Pers. Japanese quince.

From Shanghai, Kiangsu, China. Presented by Rev. J. M. W. Farnham, D. D. Received January 15, 1908.

"Seeds of a very large native quince." (*Farnham.*)

21813 to 21817. Vigna unguiculata (L.) Walp. Cowpea.

From Macassar, Celebes, Dutch East Indies. Presented by Mr. Wiebe P. de Jong, American consular agent. Received January 6, 1908.

21813. *Cream.*
21814. *Whippoorwill.*
21815. *Black-Eye.*
21816. *Clay.*
21817. *Black.*

21818. Glycine hispida (Moench) Maxim. Soy bean.

From Paris, France. Purchased from Vilmorin-Andrieux & Co. Received January 17, 1908.

Ito San. Called by the French, *Yellow Etampes.*

21819. Pinus gerardiana Wall. Chilgoza pine.

From Fort Sandeman, Baluchistan. Received from Lieut. Col. G. C. French, I. A., political agent in Zhob, through Prof. E. P. Stebbing, imperial forest zoologist to the Government of India, Calcutta, India, January 14, 1908.

"The Chilgoza pine, which bears an edible seed, is a moderate-sized tree confined in its native habitat to the inner dry and arid valleys of the northwestern Himalayas, from Kunawar westward, and in Gharwal. It is found in isolated areas of not great extent, and generally at altitudes between 6,000 and 12,000 feet. The trees are seen at their best at an elevation of about 8,000 feet, where they reach a height of 70 to 85 feet, with a girth of 9 to 12 feet. The species is quite hardy, as in a part of its range it often grows on what appears to be solid limestone rock, enduring high winds and severe winters with heavy snowfalls. The precipitation in the Chilgoza region is mostly in the form of snow and is only about 8 inches per annum.

"The chief product of this tree is the edible seed, nearly an inch in length, contained in the cones. The seeds are very nutritious and agreeable in flavor; they form a staple food of the inhabitants of Kunawar. A full-sized cone yields over 100 seeds, and each tree produces 15 to 25 cones." (*From letter of Consul-General Michael, March 21, 1907, and Forest Bulletin No. 7, 1906, by Mr. E. P. Stebbing, of India Forest Department.*)

"This tree is also common in northern Afghanistan." (*W. F. Wight.*)

21820. XIPHAGROSTIS CONDENSATUS (Hack.) W. F. Wight. (MISCANTHUS CONDENSATUS Hack.)

From Yokohama, Japan. Purchased from the Yokohama Nursery Company. Received January 18, 1908.

(For description see No. 10524.)

21823. LANSIUM DOMESTICUM Jack. **Doekoe.**

From Manila, P. I. Presented by Mr. W. S. Lyon. Received January 6, 1908.

Philippine local name *Lanzon;* Java name *Dockoe.* "I have met it more or less widely throughout the archipelago, but, so far as I know, it only fruits abundantly and well in Laguna Province, Luzon, and in widely remote Joló. "Fruits should become thoroughly mature before picking; those commonly found in the markets are picked when immature. I have sent ripe fruits from Manila to Yokohama (eleven days) and green ones to Honolulu (twenty-one days) successfully." (*Lyon.*)

21824 and 21825.

From Hokkaido, Japan. Presented by Mr. K. Hashimoto, Kuchchau Agricultural Society, Abutagun. Received January 14, 1908.

21824. PHASEOLUS ANGULARIS (Willd.) W. F. Wight. (DOLICHOS ANGULARIS Willd.) **Adzuki bean.**

Red. "Used in making ari." (*Hashimoto.*)

21825. GLYCINE HISPIDA (Moench) Maxim. **Soy bean.**

Amherst (?). "Used in the manufacture of 'soy,' 'miso,' 'tifu,' etc." (*Hashimoto.*)

21826. XANTHOSOMA SAGITTAEFOLIUM (L.) Schott. **Yautia.**

From Georgetown, British Guiana. Presented by Mr. Donald Mitchell, American vice and deputy consul, through Mr. O. W. Barrett. Received September 4, 1906.

"The tubers of this variety were mingled with those of No. 19149, but when grown proved to be distinct from any other variety of yautia (?) in the collection." (*Barrett.*)

21827. MEDICAGO SATIVA L. **Alfalfa.**

From Chinook, Mont. Purchased from Mr. F. G. Cooper. Received January 22, 1908.

Grimm.

21828 and 21829. MEDICAGO SATIVA L. **Alfalfa.**

From the Sevier Valley, near Oasis, Utah. Purchased from Mr. A. F. Bliss, Deseret, Utah. Received January 22, 1908.

21828. First crop. **21829.** Second crop.

21830 and 21831. GLYCINE HISPIDA (Moench) Maxim. **Soy bean.**

From Hokkaido, Japan. Presented by the Yokohama Nursery Company, Yokohama, Japan. Received January 24, 1908.

21830. *Butterball.* Japanese name *Akita.*

21831. Japanese name *Rumoi.*

21834 to 21836. ANDROPOGON SORGHUM (L.) Brot. **Kafir.**

From Maiduguri, Bornu, Sudan, Africa. Presented by Prof. J. Burtt Davy, agrostologist and botanist, Transvaal Department of Agriculture, Pretoria, Transvaal. Received January 27, 1908.

21834. *Black-Hull.*

21835. *Red Matakwa.*

21836. *White Matakwa.*

21837. BAMBOS ARUNDINACEA Retz. **Bamboo.**

From Sibpur, Calcutta, India. Presented by Capt. A. T. Gage, superintendent, Royal Botanic Garden, through Mr. W. W. Smith. Received January 28, 1908.

(For description see No. 21317.)

21838. TRITICUM AESTIVUM L. **Wheat.**

From Vomero, Naples, Italy. Presented by Dr. C. Sprenger. Received January 28, 1908.

"The kind of grain which is used for the straw-plaiting industry of Italy is *Triticum aestivum* var. *crimeron*, called commonly in Italian *Grano Marzuolo*.

"There are two undervarieties known, the *Santa Fiora* and the *Semone*, which are cultivated on poor, thin land. The seed is planted in the month of November and also in February, and sown very thickly. We pull it up when the ear begins to be formed." (*Angiolo Pucci.*)

"The straw used in the plaiting industry is that of a special kind of very dwarf wheat; it is sown in November (in Italy). The straw is dried and afterwards blanched with sulphur. This blanched straw is the material used in all industries of this kind." (*Sprenger.*)

21860. CANARIUM LUZONICUM (Blume) Gray. **Pili nut.**

From Manila, P. I. Presented by Mr. George A. Spooner, Pay Department, U. S. Army, Chicago, Ill. Received January 25, 1908.

"This nut is largely used in the Philippine Islands and East Indies for food. It is said that the flavor is finer when the meat is blanched and salted, after the manner in which salted almonds are prepared." (*Ralph A. Gould.*)

21861. DIMORPHOTHECA SPECTABILIS Schlechter.

From Barberton, Transvaal. Presented by Mr. George Thorncroft. Received January 18, 1908.

"Habitat: Grows on stony hills, altitude 6,000 feet. Flowers in September, with the first shower of rain. (We get no rain here from the end of March until August.) It is the handsomest of all our daisies." (*Thorncroft.*)

"The plant grows 30 to 45 centimeters high and has bright purple rays about 2.5 centimeters long and a purple disk." (*Schlechter.*)

21862 and 21863. SPERGULA ARVENSIS L. **Spurry.**

From Paris, France. Purchased from Vilmorin-Andrieux & Co. Received January 30, 1908.

21862. *Corn* or *Common.*

21863. *Giant.*

21864. DIOSCOREA DECAISNEANA Carr. **Yam.**

From Paris, France. Purchased from Vilmorin-Andrieux & Co. Received January 30, 1908.

21865. COLEUS AMBOINICUS Lour.

From Toco, Trinidad. Collected by Mr. O. W. Barrett in October, 1907,

21867. Medicago sativa L. Alfalfa.

From Juab Valley, near Nephi, Utah. Purchased from Mr. Oliver Wilson. Received February 6, 1908.

Dry-Land.

21868 and 21869. Andropogon sorghum (L.) Brot. Kafir.

From Chillicothe, Tex. Grown by Mr. A. B. Conner, season of 1907.

21868. *Black-Hull.* "Original selection made on farm of Mr. T. F. Moody, Canadian, Tex., in 1905, and grown in head-to-row plots at the Chillicothe Testing Station since that date." (*Conner.*)

21869. *Black-Hull.* "Original selection made on farm of Mr. Noblett, Chillicothe, Tex., in 1905, and grown in head-to-row plots at the Chillicothe Testing Station since that date." (*Conner.*)

21870. Citrus decumana (L.) Murr. Pomelo.

From Amoy, China. Presented by Mr. W. H. Wallace, manager, Hongkong-Shanghai Bank. Received February 7, 1908.

Amoy. "The *Amoy* pomelos are noted among Europeans and Americans along the coast of China for their excellent quality. According to Mr. Rea Hanna, formerly of the consulate at Amoy, this variety is equal in quality to the best Florida-grown varieties with which he is familiar." (*Fairchild.*)

21871 to 21874.

From Zichron-Jacob, Caiffa, Palestine. Presented by Mr. A. Aaronsohn. Received October 30, 1907.

21871. Triticum dicoccum Schrank. Emmer.

From above Medschoel esch-Schems.

21872. Triticum dicoccum Schrank. Emmer.

From vicinity of Rahle, between Raschaya and Katana. Altitude about 1,500 meters.

21873. Triticum monococcum aegilopioides Asch. & G.

From Rahle.

21874. Hordeum spontaneum C. Koch.

From Mount Tabor. "Soil calcareous." (*Aaronsohn.*)

21875 to 21932.

From Peking, Chihli, China. Received through Mr. F. N. Meyer, agricultural explorer for this Department, February 7, 1908.

A miscellaneous collection of seeds and cuttings, as follows:

21875. Castanea sativa Mill. Chestnut.

From Pangshan, Chihli, China. "(No. 833a, Nov. 24, 1907.) A wild chestnut found growing here and there in big groves on the rocky mountain slopes. The burrs containing the nuts are extraordinarily spiny. This chestnut may grow in regions where there is a slight rainfall and be utilized as a foresting tree. Chinese name *San li tse shu.*" (*Meyer.*)

21876. Quercus sp.

From Shutseshan, Chihli, China. "(No. 835a, Nov. 18, 1907.) Acorns of a chestnut oak, probably *Quercus chinensis.* Called by the Chinese *Siang tse shu.* They utilize the acorns for tanning and dyeing purposes, and also fatten hogs with them. It is a handsome tree, with long, serrated leaves, which remain on the tree for the greater part of the winter. Stands drought very well, but seems sensitive to great cold. May be of use as a foresting tree in the semiarid regions of the southwestern United States." (*Meyer.*)

21875 to 21932—Continued.

21877. JUGLANS REGIA SINENSIS C. DC. **Walnut.**

From Pangshan, Chihli, China. "(No. 836a, Nov. 24, 1907.) A wild walnut found growing here and there between bowlders. The nuts are not as sweet as the cultivated varieties, but otherwise there is little difference, except that the wild trees are not of as vigorous a growth as the cultivated ones." (*Meyer.*)

21878. MALUS BACCATA (L.) Moench. **Crab apple.**

From Shinglungshan, Chihli, China. "(No. 837a, Dec. 2, 1907.) A wild crab apple, the fruits of which are not larger than green peas. An excellent stock for all kinds of crab apples. Chinese name *San tin tse.* Scions sent under No. 183 (S. P. I. No. 21922)." (*Meyer.*)

21879. MALUS sp. **Crab apple.**

From Jehol, Chihli, China. "(No. 838a, Dec. 10, 1907.) A cultivated crab apple. Chinese name *Gei tang.* Scions sent under No. 195 (S. P. I. No. 21927)." (*Meyer.*)

21880. PYRUS CHINENSIS Lindl. **Pear.**

From Shinglungshan, Chihli, China. "(No. 839a, Dec. 2, 1907.) Seeds of a wild pear which grows here and there in big groves and assumes sometimes a large size, trunks 2 to 3 feet in diameter and 60 to 80 feet tall. May be utilized as grafting stock in northern regions. Scions sent under No. 184 (S. P. I. No. 21923)." (*Meyer.*)

21881. CELTIS sp. **Hackberry.**

From Pangshan, Chihli, China. "(No. 851a, Nov. 24, 1907.) Probably *Celtis bungeana.* A small tree with rather broad leaves, growing in rocky locations. Of use in gardens and parks in rather dry regions." (*Meyer.*)

21882. CELTIS sp. **Hackberry.**

From near Yenmenkwan, Chihli, China. "(No. 852a, Nov. 30, 1907.) Probably *Celtis bungeana.* Apparently the same as the preceding number (S. P. I. No. 21881)." (*Meyer.*)

21883. (Undetermined.)

From mountains of North China. "(No. 866a, Nov. 18 to Dec. 2, 1907.) A low shrub, 1 to 1½ feet high, flowering in early summer, with beautiful rosy flowers in short racemes; very floriferous. Grows in dry, rocky locations, covering sometimes whole mountain slopes. Well fitted for rockeries or as a bedding shrub in gardens in dry regions. Chinese name *Fan li hua.* Sent from Manchuria under No. 402a (S. P. I. No. 20127)." (*Meyer.*)

21884. LESPEDEZA sp. (?).

From Pangshan, Chihli, China. "(No. 867a, Nov. 20, 1907.) Probably *Lespedeza caraganae.* A rare shrub, 4 to 5 feet tall, found growing in rocky and sandy locations. Seems to like some shade. May be of use in sandy, dry regions." (*Meyer.*)

21885. LESPEDEZA sp.

From near Malanyu, Chihli, China. "(No. 868a, Nov. 29, 1907.) Probably *Lespedeza juncea.* A shrub forming many straight shoots, growing in sandy and rocky locations in the full sun. In Tsingtau it is extensively used for sand binding and for underwood in the Yemen government parks and nurseries. Sent also from eastern Siberia under No. 564a (S. P. I. No. 20335)." (*Meyer.*)

21886. LESPEDEZA sp.

From Shinglungshan, Chihli, China. "(No. 869a, Dec. 2, 1907.) Seeds of a leguminous, perennial herb found growing on very dry and rocky mountain slopes, having many slender, semierect stems which spring up in a tuft; very small, trifoliate leaves. May be of value on dry lands as sheep fodder, though the seed capsules are spiny when dry." (*Meyer.*)

21875 to 21932—Continued.

21887. LESPEDEZA sp.

From near Jehol, Chihli, China. "(No. 807a, Dec. 5, 1907.) Seeds of a leguminous, perennial herb found growing along very dry banks. Apparently a variety of No. 869a (S. P. I. No. 21886), but having much heavier and creeping stems, due perhaps to the location; otherwise the same remarks apply." (*Meyer.*)

21888. (Undetermined.)

From Pangshan, Chihli, China. "(No. 871a, Nov. 20, 1907.) An alfalfa-like plant. A leguminous, perennial herb growing in very dry and rocky places, throwing up a tuft of many slender, though very erect stems; small, trifoliate leaves and small racemes of very small, whitish flowers. Height 2½ to 3 feet. May be of value on dry land as a food for cattle." (*Meyer.*)

21889. FALCATA JAPONICA Oliver.

From mountains near Santchako, Chihli, China. "(No. 872a, Dec. 1, 1907.) Seeds of a Leguminosae of twining habit, similar to No. 617a (S. P. I. No. 20386). Of use as a fodder plant on land which is overrun with scrub, so as to give this bean support." (*Meyer.*)

21890. INCARVILLEA SINENSIS Lam.

From near Shinglungtang, Chihli, China. "(No. 874a, Dec. 4, 1907.) An herbaceous annual, bearing large, rose-red flowers in terminal racemes; finely pinnatified leaves. Grows from 2 to 4 feet tall, often seen along new railroad embankments in Shansi. The leaves and stems are used by the Chinese as medicine, applied externally, when they have cold or rheumatism in their legs or knee joints." (*Meyer.*)

21891. (Undetermined.)

From near Shinglungtang, Chihli, China. "(No. 879a, Dec. 5, 1907.) An herbaceous, annual Labiate with bluish flowers containing a volatile perfume, like menthol; may be useful for extraction of this perfume. The Chinese use the plant medicinally for colds in the head, and it *does* clear when snuffed up through the nostrils in case of a cold. Seems to come close to the North American *Pycnanthemum linifolium* in containing so much menthol-like scent." (*Meyer.*)

21892. ARTEMISIA ANNUA L.

From Tientsin, Chihli, China. "(No. 885a, Oct. 7, 1907.) A biennial herb used for grafting large-flowered chrysanthemums upon when it throws up its flowering stem in the second year. Chinese name *Yu hou.*" (*Meyer.*)

21893. CHRYSANTHEMUM STIPULACEUM Moench. (CHRYSANTHEMUM SINENSE Sabine, 1825.) (ANTHEMIS STIPULACEA Moench, 1802.) Chrysanthemum.

From Pangshan, Chihli, China. "(No. 886a, Nov. 19, 1907.) Seeds of the original type of chrysanthemum, from which most of the cultivated ones have been derived; flowers vary in color from pure white to purple. Deserves to be naturalized as a wild flower in rocky localities. Used medicinally by the Chinese (like tea, when suffering from a cold). Chinese name *Hsu hua.*" (*Meyer.*)

21894. CHRYSANTHEMUM INDICUM L. Chrysanthemum.

From Pangshan, Chihli, China. "(No. 887a, Nov. 19, 1907.) An original type of chrysanthemum, from which probably the yellow varieties of cultivated chrysanthemums have been derived. Always yellow, though there is a slight variation in its shading. Used as a medicine by the Chinese, like the preceding number (S. P. I. No. 21893)." (*Meyer.*)

21895. ERAGROSTIS sp.

From Tungling, Chihli, China. "(No. 888a, Nov. 29, 1907.) An uncommon, graceful grass growing from 2½ to 3 feet tall; found along dry ditches." (*Meyer.*)

21875 to 21932—Continued.

21896. ARUNDINELLA ANOMALA Steud.

From Tungling, Chihli, China. "(No. 889a, Nov. 29, 1907.) A tall, coarse grass, 3 to 5 feet tall, found growing here and there in large masses; of a spread-out growth. May be of use as a fodder grass." (*Meyer.*)

21897. ANDROPOGON ISCHAEMUM L.

From Tungling, Chihli, China. "(No. 890a, Nov. 29, 1907.) A medium tall grass growing here and there on level stretches in large quantities." (*Meyer.*)

21898. SPODIOPOGON SIBIRICUS Trin.

From Tungling, Chihli, China. "(No. 891a, Nov. 29, 1907.) A rare, very tall grass, 6 to 7 feet high, growing in solitary clumps." (*Meyer.*)

21899. PENNISETUM COMPRESSUM R. Br.

From near Yenmenkwan, Chihli, China. "(No. 892a, Nov. 30, 1907.) Seed of a rare grass growing in heavy clumps here and there along water courses." (*Meyer.*)

21900. PENNISETUM FLACCIDUM Griseb.

From near Lanshang, Chihli, China. "(No. 893a, Dec. 3, 1907.) A low grass, 1½ to 2 feet high, growing in vast quantities on sandy, level stretches." (*Meyer.*)

21901. PHASEOLUS VULGARIS L. **Bean.**

From Pangshan, Chihli, China. "(No. 894a, Nov. 21, 1907.) A strange bean used as a vegetable." (*Meyer.*)

21902. CUCURBITA PEPO L. **Pumpkin.**

From Pangshan, Chihli, China. "(No. 895a, Nov., 1907.) A large pumpkin, used as a vegetable when boiled; also baked in the oven entire and used then as a delicatesse." (*Meyer.*)

21903. CITRULLUS VULGARIS Schrad. **Watermelon.**

From Pangshan, Chihli, China. "(No. 896a, Nov. 21, 1907.) Said to be a white-meated watermelon of very good taste." (*Meyer.*)

21904. CITRUS sp.

From Peking, Chihli, China. "(No. 897a, Dec. 24, 1907.) A large-fruited citrus, the fruits of which are sold as room perfumers. The meat is very bitter and sour and scarcely edible." (*Meyer.*)

21905. CITRUS LIMONUM Risso. **Lemon.**

From Peking, Chihli, China. "(No. 898a, Dec. 24, 1907.) A large, very juicy lemon, not too sour; the fruits are almost seedless and have a very thin rind. Purchased on the street." (*Meyer.*)

21906. CELOSIA ARGENTEA L. **Cockscomb.**

From Tsuichiachuang, Shantung, China. "(No. 900a, Nov., 1907.) A variety of cockscomb said to grow in a globular head; very rare. Sent to me by Rev. A. C. Moule, of Taian, Shantung." (*Meyer.*)

21907. VITIS sp.

From Pangshan, Chihli, China. "(No. 153, Nov. 20, 1907.) A Vitis bearing large, deeply lobed leaves and small clusters of bluish white berries. Grows in dry, rocky situations. May be of use as a cover plant for large rockeries or for planting on terraces, where the branches may hang down so as to create a better effect." (*Meyer.*)

21908. AMYGDALUS DAVIDIANA (Carr.) Dippel. **Peach.**

From Pangshan, Chihli, China. "(No. 154, Nov. 30, 1907.) A variety found growing in very dry and exposed places. Of use as a garden shrub in semiarid regions. Also an excellent stock for apparently all of the stone fruits." (*Meyer.*)

21875 to 21932—Continued.

21909. BERBERIS sp. **Barberry.**

From Pangshan, Chihli, China. "(No. 160, Nov. 20, 1907.) Probably *Berberis chinensis*. A low-growing barberry of a very spreading habit. Seems to be able to withstand drought extraordinarily well. Not highly ornamental, but may be of use for planting on very sterile and dry soils. The scarlet berries seem to remain a long time upon the shoots, and for this reason it may be found useful as a winter ornamental bush." (*Meyer.*)

21910. DIOSPYROS KAKI L. f. **Persimmon.**

From Pangshan, Chihli, China. "(No. 161, Nov. 21, 1907.) A very rare, delicious persimmon called *Siang shi tse*. Of medium size, 2 to 3 inches in diameter, flat, but not having a circular incision; of orange-red color; very thin skinned; has generally 3 to 6 seeds in its fruits; is of very sweet and fresh taste. Only one tree known to exist, that being near an old temple. Is not a shipper, but can be kept until February when handled carefully." (*Meyer.*)

21911. PYRUS CHINENSIS Lindl. **Pear.**

From Pangshan, Chihli, China. "(No. 166, Nov. 23, 1907.) A round, hard pear of medium size. Has a high red blush and looks strikingly like an apple. Chinese name *Hong li*, meaning red pear. Can be kept until early summer." (*Meyer.*)

21912. PYRUS CHINENSIS Lindl. **Pear.**

From Pangshan, Chihli, China. "(No. 167, Nov. 23, 1907.) A small pear of canary-yellow color; egg shaped with a long peduncle; hard meated, but very sweet and juicy; a good keeper. Chinese name *Mi li*, meaning honey pear." (*Meyer.*)

21913. PYRUS CHINENSIS Lindl. **Pear.**

From Pangshan, Chihli, China. "(No. 168, Nov. 23, 1907.) A hard, round, apple-shaped pear of a russet color; of rather coarse texture; a good keeper and shipper. May be good for cooking purposes. Chinese name *Tang li*." (*Meyer.*)

21914. PYRUS CHINENSIS Lindl. **Pear.**

From Pangshan, Chihli, China. "(No. 169, Nov. 23, 1907.) A hard but juicy pear of medium size, barrel shaped, and of a pale straw-yellow color. A very good keeper and shipper. Chinese name *Ma li*." (*Meyer.*)

21915. MALUS sp. **Crab apple.**

From Pangshan, Chihli, China. "(No. 170, Nov. 23, 1907.) A sweet, white crab apple of flat shape, like the saucer peach; a rare variety; does not keep well. Chinese name *Sa kua*." (*Meyer.*)

21916. MALUS sp. **Crab apple.**

From Pangshan, Chihli, China. "(No. 171, Nov. 23, 1907.) A sour, red crab apple of flat shape, like the saucer peach. A rare local variety and like the preceding number (S. P. I. No. 21915) does not keep well. Chinese name *Ly tse*." (*Meyer.*)

21917. PYRUS CHINENSIS Lindl. **Pear.**

From Pangshan, Chihli, China. "(No. 175, Nov. 23, 1907.) A very thrifty growing pear, said to be a variety of No. 169 (S. P. I. No. 21914). Not named, however. All of these pears look more like apples than like pears so far as habits and general looks are concerned. The bark on the tree is smooth and on the younger branches even shining so as to absorb a minimum of heat during the winter and spring. These retarding qualities may be of much value in breeding experiments." (*Meyer.*)

21918. PYRUS CHINENSIS Lindl. **Pear.**

From Tungling, Chihli, China. "(No. 177, Nov. 29, 1907.) A very thrifty form of the wild pear, used everywhere in the north as a grafting stock for the cultivated varieties of pears." (*Meyer.*)

21875 to 21932—Continued.

21919. RHODODENDRON sp.

From Shinglungshan, Chihli, China. "(No. 180, Dec. 2, 1907.) Probably *Rhododendron micranthum*. A small-leaved, semi-evergreen bush bearing small clusters of yellowish white flowers in early summer. Is always found growing at elevations from 3,000 to 8,000 feet." (*Meyer.*)

21920. ULMUS sp. Elm.

From Shinglungshan, Chihli, China. "(No. 181, Dec. 2, 1907.) An elm growing to be a tall tree, bearing broad leaves. The trees when young have corky wings all along their branches, which makes them look striking. Seems to thrive best in somewhat moist soil." (*Meyer.*)

21921. CRATAEGUS PINNATIFIDA Bunge. Hawthorn.

From Shinglungshan, Chihli, China. "(No. 182, Dec. 2, 1907.) A very hardy hawthorn with glistening white twigs; may be of use as a fence plant in semiarid regions." (*Meyer.*)

21922. MALUS sp. Crab apple.

From Shinglungshan, Chihli, China. "(No. 183, Dec. 2, 1907.) The very hardy, small-fruited crab apple, upon which the Chinese graft their improved forms of crab apples. Chinese name *San tin tse*." (*Meyer.*)

21923. PYRUS CHINENSIS Lindl. Pear.

From Shinglungshan, Chihli, China. "(No. 184, Dec. 2, 1907.) The fruits of these wild pear trees become edible after the heavy frosts, but are not particularly fine; the wood, though, is much wanted for the manufacture of printing blocks and for comb making. The trees might be grown in parks as ornamental, hardy trees. Planted in a clump they are very effective." (*Meyer.*)

21924. PRUNUS TOMENTOSA Thunb. (?). Cherry.

From near Laushang, Chihli, China. "(No. 186, Dec. 3, 1907.) The wild bush cherry. A very hardy shrub of dense, bushy habit. May be of use in parks and gardens in semiarid regions. Can be propagated by budding on *Amygdalus davidiana* and by division, layering, and sowing. Chinese name *Shan ying tau*." (*Meyer.*)

21925. HYDRANGEA sp.

From near Tungying, Chihli, China. "(No. 187, Dec. 4, 1907.) A tall, bushy hydrangea, bearing many umbels of apparently white flowers. A rare shrub, found (only twice) in rocky locations along a water course." (*Meyer.*)

21926. RHODODENDRON sp.

From near Tungying, Chihli, China. "(No. 189, Dec. 4, 1907.) A tall, bushy rhododendron, perfectly deciduous, bearing medium-sized clusters of lilac flowers in early summer. Of use as a shrub in rockeries. Grows apparently between 4,000 and 7,000 feet elevation." (*Meyer.*)

21927. MALUS sp. Crab apple.

From Jehol, Chihli, China. "(No. 195, Dec. 10, 1907.) Chinese name *Gei tang*. The fruits are as large as good-sized cherries, of dark red color with a bluish tinge. Of a very fresh, sour taste and make good preserves. Are grafted upon the wild crab apple. They seem to be able to withstand drought and extremes in temperature very well." (*Meyer.*)

21928. PYRUS CHINENSIS Lindl. Pear.

From Jehol, Chihli, China. "(No. 196, Dec. 10, 1907.) A medium-sized pear of pale yellow color and of soft, melting meat. Can be kept quite a while when handled carefully. Is a rare local variety. Chinese name *Pei soo li*." (*Meyer.*)

21875 to 21932—Continued.

21929. PYRUS CHINENSIS Lindl. **Pear.**

From Jehol, Chihli, China. "(No. 197, Dec. 10, 1907.) A remarkable pear, being flat apple-shaped, of green-yellowish color; hard until spring, when it becomes melting; has a peculiar sour taste. Makes excellent preserves for use with game or fowl. Chinese name *Ta suan li*, meaning large, sour pear." (*Meyer.*)

21930. PYRUS sp. **Pear.**

From Jehol, Chihli, China. "(No. 198, Dec. 10, 1907.) A medium-sized pear; hard, but juicy and sweet; dark canary-yellow colored. A good keeper. A rare local variety. Chinese name *Ten li.*" (*Meyer.*)

21931. PYRUS sp. **Pear.**

From Jehol, Chihli, China. "(No. 199, Dec. 10, 1907.) A small-sized pear of apple shape; has soft, melting meat with an agreeable tart flavor; of yellow color, with rosy red blush. Not anything extra. Chinese name *Guarr li.*" (*Meyer.*)

21932. ULMUS DAVIDIANA Planch. **Elm.**

From near Jehol, Chihli, China. "(No. 201, Dec. 11, 1907.) An elm growing to be a medium-sized tree with a round, spread-out head; when young has two corky wings along its young branches; is not a common tree at all. Grows in very dry and exposed localities. May be of use as a park and garden tree in the cold-wintered, semiarid regions of the United States." (*Meyer.*)

21933. DIOSCOREA sp. **Yam.**

From Manila, P. I. Presented by Mr. William S. Lyon, through Mr. O. W. Barrett. Received February 11, 1908.

"It is entirely devoid of the gumminess so prized by the natives in such yams as 'Namê' and 'Tuguf.'" (*Lyon.*)

"*Raspberry.* This is a variety native to the virgin forests of Luzon and is never seen in cultivation on account of the difficulty of keeping the roots through the long dry season." (*Barrett.*)

21934. VIGNA CATJANG (Burm.) Walp. **Catjang.**

From Sydney, New South Wales, Australia. Presented by the Department of Agriculture. Received January 20, 1908.

Upright. "This pea is the most upright of any of the varieties originally from India. This same pea was received in 1902, as Agros. No. 1488, from New South Wales, they having received it from India in 1901." (*Nielsen.*)

21935. MEDICAGO SATIVA L. **Alfalfa.**

From Puno, Peru, near Lake Titicaca. Presented by Prof. Alberto L. Gadea, through Mr. Charles J. Brand. Received December, 1907.

Andean. "(P. L. H. No. 3262.) Grown at an altitude of 12,540 feet, 1907 crop." (*Brand.*)

21936. ANDROPOGON SORGHUM (L.) Brot. **Sorgo.**

From Guymon, Okla. Presented by Mr. A. L. Johnson, through Mr. C. R. Ball, agronomist, Sorghum Investigations of the Bureau of Plant Industry. Received February 7, 1908.

Gooseneck.(?) "*Mexican Turfless.* I have grown this variety one year in Texas and one year in Oklahoma; it came originally from Mexico and was so named because of its Mexican origin and the fact that it does not turf or clod the ground as other varieties do. It is very leafy, an abundant stooler, and reaches a height of 4.5 feet under my conditions." (*Johnson.*)

21937. ANDROPOGON SORGHUM (L.) Brot. **Kafir.**

From Chillicothe, Tex. Grown by Mr. A. B. Conner, at the Chillicothe Testing Station, season of 1907.

Black-Hull. "(Agros. No. 1700.) Grown as a selection since 1905 at Chillicothe, Tex., by Mr. A. B. Conner. Original seed from Bomen, New South Wales, Australia, presented by Mr. G. Maurice McKeown, manager, Wagga Experiment Farm; received June 15, 1903. Numbered February 11, 1908, for convenience in keeping records." (*Conner.*)

21938. MEDICAGO SATIVA L. **Alfalfa.**

From near Excelsior, Minn. Received through Mr. A. B. Lyman, February 6, 1908.

Grimm. Crop of 1907.

21939 to 21941.

From Pretoria, Transvaal, South Africa. Presented by Prof. J. Burtt Davy, government agrostologist and botanist, Transvaal Department of Agriculture. Received February 10, 1908.

21939. TRITICUM AESTIVUM L. **Wheat.**

Havemann.

21940. ANDROPOGON SORGHUM (L.) Brot. **Kafir.**

Red. (No. 5.)

21941. ANDROPOGON SORGHUM (L.) Brot. **Sorghum.**

White durra. From the Kabyle Country, Algeria, April, 1907.

21942. ASTRAGALUS SINICUS L.

From Yokohama, Japan. Presented by the Yokohama Nursery Company. Received February 10, 1908.

Giant.

21943. CEPHALOSTACHYUM PERGRACILE Munro. **Bamboo.**

From Northern Circle, U. B., India. Presented by Mr. J. Copeland, Conservator of Forests, through the Chief Conservator of Forests, Burma. Received February 15, 1908.

(See No. 21236 for description.)

21944. VICIA SATIVA L. **Common vetch.**

From Pullman, Wash. Grown by Mr. W. M. Evans in 1907. Received December, 1908.

"The above was grown from seed of C. V. P. No. 0449, which was originally picked out of rye from Fair Oaks, Cal." (*Nielsen.*)

21945. MEDICAGO SATIVA L. **Alfalfa.**

From Sextorp, Nebr. Purchased from Mr. Lewis Brott. Received February 15, 1908.

Dry-Land. "This seed was grown on the high plains of western Nebraska for about twelve years. This strain is promising on account of its drought and cold resisting qualities. Crop of 1907. No hay crop is taken off when it is desired to produce seed." (*Brand.*)

21946 to 21955.

From Buitenzorg, Java. Presented by Dr. M. Treub, director of the Department of Agriculture. Received February 11, 1908.

21946. GLYCINE HISPIDA (Moench) Maxim. **Soy bean.**

"*Zwarte kadelee.*"

21946 to 21955—Continued.

21947 to 21950. DOLICHOS LABLAB L. Hyacinth bean.

21947. "*Katj: Ieda.*" 21949. "*Katj: Ypit idjo.*"

21948. "*Katj: Ypit.*" 21950. "*Katj: Ypit poetih.*"

21951 to 21953. STIZOLOBIUM CAPITATUM (Roxb.) Kuntze.

21951. Black-seeded variety. 21953. "*Bengock item.*"

21952. "*Bengock poetih.*"

21954. STIZOLOBIUM HIRSUTUM (Wight & Arn.) Kuntze.

21955. STIZOLOBIUM CAPITATUM (Roxb.) Kuntze.

21956. ANANAS SATIVUS Schult. f. Pineapple.

From Quito, Ecuador. Presented by Hon. W. C. Fox, American minister. Received December 7, 1907.

Guayaquil.(?) "This plant is undoubtedly the so-called Guayaquil variety, although its exact habitat is 'El Milagro,' about 30 miles inland from Guayaquil. The Guayaquil is undoubtedly the finest pineapple I have ever tasted." (*Fox.*)

21957. PHRAGMITES KARKA (Retz.) Trin.

From Sibpur, Calcutta, India. Presented by Capt. A. T. Gage, superintendent, Royal Botanic Garden. Received February 13, 1908.

"A grass very similar to *Phragmites communis*, but larger. Watt, Dictionary of Economic Products of India, vol. 6, p. 216, 1892, states that the stems are 8 to 12 feet high and are used for making baskets, chairs, hurdles, screens, and the tubes of 'hukahs.' Roxburgh, Flora of India, vol. 1, p. 348, 1832, states that the common Durma mats of Bengal are made of the stalks split open. Watt also says that according to Stewar a fiber is extracted from the upper part of the stems, and according to Atkinson the fiber of the flower stalks is manufactured into rope in the Kumaon Bhabar. Useful Plants of Japan, published by the Agricultural Society of Japan, 1895, p. 223, states that the grass is planted in water sides to protect mud from being washed away by waves, and that its young shoots are edible. Those produced in Udini village, of the Province of Setsu, are called Udono-yeshi and are very famous for their large and long stalks.

"Names in India: Hindu name, *Narkul;* Bengal name, *Nal;* Kumaon names, *Karka, Nal, Khaila.* Japanese names: *Jositake, Joosk* or *Sinagosa, Josi, Yoshi, Ashi.*" (*W. F. Wight.*)

21958. PANICUM MAXIMUM Jacq. Guinea grass.

From Santiago de las Vegas, Cuba. Presented by Prof. H. Benton, chief, Department of Agriculture, through M. C. V. Piper. Received February 13, 1908.

21959. BERBERIS VULGARIS JAPONICA Regel.

From Jamaica Plain, Mass. Presented by Prof. C. S. Sargent, of the Arnold Arboretum. Received February 17, 1908.

For experiments in the breeding of barberries.

21960. QUERCUS CORNEA Lour.

From Hongkong, China. Presented by Mr. S. T. Dunn, superintendent, Botanical and Forestry Department. Received February 20, 1908.

(See No. 10633 for description.)

21961. Panicum plantagineum Link.

From Biloxi, Miss. Grown by Prof. S. M. Tracy, season of 1907. Received January, 1908.

"Seed from a single plant growing with No. 19158, Natal grass, at Biloxi, Miss. A very promising grass for that locality." (*Piper.*)

21962. Medicago sativa L. Alfalfa.

From Mecca, Cal. Presented by Mr. E. Brauckman, through Mr. J. M. Westgate. Received February 20, 1908.

"Seed from Arabian alfalfa, No. 12992, supposedly crossed with ordinary alfalfa which was grown alongside of it." (*Westgate.*)

21963 and 21964.

From Guatemala. Collected by Prof. W. A. Kellerman, Ohio State University, Columbus, Ohio. Presented through Dr. J. N. Rose, of the United States National Museum, Washington, D. C. Received February 20, 1908.

21963. Dahlia imperialis Roezl.

"(Kellerman's No. 7072; Rose's No. 08/17.) Plants of this species found growing 18 feet high." (*Kellerman.*)

21964. Beaucarnea guatemalensis Rose.

"(Kellerman's No. 7029; Rose's No. 08/16.) Tree 6 to 12 meters high, with a thickened bulbous base abruptly tapering into a slender stem 5 to 8 centimeters in diameter; the swollen base covered with corky bark 6 centimeters thick; upper part of stem smooth, with very thin bark; leaves numerous, slightly roughened on both surfaces, clustered at the top as in the common cultivated Beaucarneas, erect (?), broad at base (40 to 50 millimeters), 10 to 15 millimeters broad above the base and gradually tapering upward into a long filiform top 60 to 80 centimeters long, the margin entire; the male inflorescence an open panicle, 60 to 90 centimeters long; female inflorescence not seen; fruit 15 millimeters long, strongly three winged; wings thin, 4 to 5 millimeters broad.

"Collected halfway up the side of the Sierra de las Minas, opposite El Rancho, Guatemala, April 10, 1905 (Kellerman's No. 4320).

"This species belongs with *B. inermis* and *B. pliabilis*, but the fruit is broader winged than the former and the leaves are broader than in the latter." (*Rose.*)

21965. Trichilia emetica Vahl.

From Pretoria, Transvaal, South Africa. Presented by Prof. J. Burtt Davy, government agrostologist and botanist, Transvaal Department of Agriculture. Received February 24, 1908.

"This is one of our most ornamental evergreen shade trees, yielding an oil known as 'Maawa,' of which I understand there is some export from Portuguese East Africa to Marseille." (*Davy.*)

21966. Chayota edulis Jacq. Chayote.

From St. Rose, La. Presented by Mr. Henry McCall. Received February 24, 1908.

"A large, smooth, light green and very prolific variety raised in Louisiana, but original source unknown. To be distributed to growers in the South with the object of encouraging its culture for the market." (*Fischer.*)

21967 to 22023.

From Peking, Chihli, China. Received through Mr. F. N. Meyer, agricultural explorer for this Department, at the Plant Introduction Garden, Chico, Cal., February 12, 1908.

21967 to 22023—Continued.

A collection of seeds, as follows:

21967. CARAGANA CHAMLAGU Lam. (?).

From Chinanfu, Shantung, China. "(No. 766a, Sept. 22, 1907.) A shrub growing to be 6 to 10 feet tall, bearing small pinnate leaves, quite spiny, said to be loaded with yellow flowers in spring. Chinese name *Kuei tsi ching*. Used as a hedge plant, and as such may be utilized in the more arid regions of the United States, as it stands drought remarkably well." (*Meyer.*)

21968. GLEDITSIA HETEROPHYLLA Bunge.

From Lungtung, Shantung, China. "(No. 767a, Sept. 25, 1907.) Chinese name *San tsao ko*. A very spiny shrub or small tree growing in dry, rocky localities. May serve as a hedge plant in the southwestern regions of the United States." (*Meyer.*)

21969. ALBIZZIA sp.

From near Boshan, Shantung, China. "(No. 768a, Sept., 1907.) Chinese name *Pai yung shu*. A small ornamental tree, with finely pinnated leaves and flowers with pale pink stamens. Not very common. When old makes the same impression as the yellow locust, *Robinia pseudacacia*." (*Meyer.*)

21970. PISTACIA CHINENSIS Bunge. **Pistache.**

From Shantung Province, China. "(No. 769a, Sept. 16, 1907.) Chinese name *Huang lien tsun*. A very ornamental, graceful-growing tree which will be appreciated in the mild-wintered regions of the United States. Grows to a great age. The Chinese express out of the seeds an oil for burning purposes." (*Meyer.*)

21971. CORNUS MACROPHYLLA Wall.

From Lungtung, Shantung, China. "(No. 770a, Sept. 25, 1907.) A medium-sized tree, loaded at time of collecting with soapy, dark green berries, which are utilized by the Chinese for oil production, this oil being burned in lamps." (*Meyer.*)

21972. CELTIS sp. **Hackberry.**

From Lungtung, Shantung, China. "(No. 771a, Sept. 25, 1907.) A small-leaved Celtis, growing in rocky situations. Attains only a small size when growing wild; if planted and cared for, however, seems to grow much larger." (*Meyer.*)

21973. KOELREUTERIA PANICULATA Laxm. **Varnish tree.**

From Lungtung, Shantung, China. "(No. 772a, Sept. 25, 1907.) A variety of the bladderpod tree with much larger leaves than the ordinary variety. The young dried shoots with foliage left on them are used by the Chinese as a green dye." (*Meyer.*)

21974. VIBURNUM sp.

From Lungtung, Shantung, China. "(No. 773a, Sept. 25, 1907.) A rather large leaved Viburnum, bearing black berries in fall. Probably the same as Nos. 390a and 391a (S. P. I. Nos. 20115 and 20116). Of use as an ornamental park shrub." (*Meyer.*)

21975. VIBURNUM sp.

From near Taichingkong temple, Shantung, China. "(No. 774a, Aug. 10, 1907.) A small-leaved Viburnum, bearing red berries. Apparently a very rare shrub; only one specimen seen in all the mountains. Of use as a small shrub in gardens and parks." (*Meyer.*)

21976. VITEX INCISA Lam.

From Lungtung, Shantung, China. "(No. 775a, Sept. 25, 1907.) A sage which may prove to be a good plant for the arid Southwestern States. It is able to resist alkali remarkably well. The Chinese use it here and there for basketry manufacture, taking the annual shoots

21967 to 22023—Continued.

for this purpose. It has pretty blue flowers and is diligently visited by all kinds of bees, and as such might be grown in gardens as a semi-ornamental shrub and as a honey plant. When left alone, grows 20 feet tall." (*Meyer.*)

21977. PTEROCELTIS TATARINOWII Maxim.

From Tuyung, Shantung, China. "(No. 776a, Sept. 25, 1907.) A large tree having a scaly whitish bark and small leaves." (*Meyer.*)

21978. RHAMNUS sp.

From Lungtung, Shantung, China. "(No. 777a, Sept. 25, 1907.) A shrubby Rhamnus with very small leaves, bearing black berries in fall. Branches, quite spiny. Of use as a hedge plant in rocky situations." (*Meyer.*)

21979. VITIS sp. **Grape.**

From Boshan, Shantung, China. "(No. 779a, Sept. 18, 1907.) Chinese name, *Ya pu tao.* Bought on the market in Boshan; has small black berries, rather sour; grows wild here and there in the mountains. A good wine can be made from the berries, but a good wine from a Chinese point of view. Can be utilized as a stock in rather arid regions." (*Meyer.*)

21980. VITIS sp. **Grape.**

From Lungtung, Shantung, China. "(No. 780a, Sept. 25, 1907.) A rare wild grape bearing small clusters of black berries, which are quite sweet. Leaves deeply incised." (*Meyer.*)

21981. VITIS sp. **Grape.**

From Lungtung, Shangtung, China. "(No. 781a, Sept. 25, 1907.) A wild grape, probably *Vitis labrusca.* A vigorous grower, overgrowing here and there whole trees and shrubs." (*Meyer.*)

21982. PYRUS BETULAEFOLIA Bunge.

From near Mongtchou, Chihli (?), China. "(No. 782a, Oct. 2, 1907.) A wild pear. Chinese name *Tu li* or *Do li.* Bears fruits not larger than green peas. Is used all over the country as a stock on which to graft pears; the Chinese claim it can be slipped very easily. Stands alkali remarkably well, and grows sometimes on pure sand. May be of value to the United States in the alkaline districts as a stock. Is also rather a nice shade tree, growing to a large size and flowering most profusely." (*Meyer.*)

21983. PYRUS CHINENSIS Lindl. **Pear.**

From Boshan, Shantung, China. "(No. 783a, Sept. 20, 1907.) Chinese name, *Tang li.* A wild pear bearing small, brown-colored fruits of an insipid taste. Has beautiful, large, glossy leaves. Probably has given blood to some of the Chinese varieties of pears." (*Meyer.*)

21984. CYDONIA sp.

From Taichingkong temple, near Tsingtau, Shantung, China. "(No. 784a, Aug. 12, 1907.) Chinese name, *Hsau kua.* A large quincelike tree with a smooth bark; bears hard, round, yellow fruits, smelling like quinces, yet not like them. Is far from being common." (*Meyer.*)

21985. PYRUS CHINENSIS Lindl. **Pear.**

From Chinanfu, Shantung, China. "(No. 785a, Sept. 22, 1907.) Seeds from some very large pears. May prove to be new types." (*Meyer.*)

21986. CRATAEGUS sp. **Hawthorn.**

From Boshan, Shantung, China. "(No. 786a, Sept. 20, 1907.) Chinese name *San li huang.* A yellow-fruited hawthorn, growing sparsely in the mountains and sold here on the market." (*Meyer.*)

21967 to 22023—Continued.

21987. CRATAEGUS PINNATIFIDA Bunge. **Hawthorn.**

From Chingchowfu, Shantung, China. "(No. 787a, Aug. 22, 1907.) Chinese name *San li hong*. A small-fruited form of the Chinese hawthorn, much more sour than the larger varieties; is used by Chinese and foreigners as a preserve; is also a good substitute for cranberries and has the advantage that everybody can grow it in his own garden." (*Meyer.*)

21988. AMYGDALUS PERSICA L. **Peach.**

From eastern China. "(No. 788a, June–Sept., 1907.) Peach stones collected in different parts of eastern China. Some good types may appear among them." (*Meyer.*)

21989. AMYGDALUS PERSICA L. **Peach.**

From Feitcheng, Shantung, China. "(No. 789a, Sept. 1, 1907.) Some stones of the most famous peach of northern China, called the *Fei tao*. The fruits grow as heavy as 1 pound apiece and are pale yellowish colored, with a slight blush; meat white, except near the stone, where it is slightly red; taste excellent, sweet, aromatic, and juicy. Is a clingstone. Has extraordinary keeping and shipping qualities. The branches need propping up on account of the weight of the fruits. Prefers well-drained, light, deep loam of a decomposed rocky origin." (*Meyer.*)

21990. AMYGDALUS PERSICA L. **Peach.**

From Kianchau, Shantung, China. "(No. 790a, Aug. 13, 1907.) A flat, juicy, white peach of fine taste. Chinese name *Pai pien tao*." (*Meyer.*)

21991. AMYGDALUS PERSICA L. **Peach.**

From Hangchow, Chehkiang, China. "(No. 791a, June 27, 1907.) A flat, red-meated peach, not very sweet in taste. Chinese name *Hung pien tao*." (*Meyer.*)

21992. AMYGDALUS PERSICA L. **Peach.**

From near Chiningchou, Shantung, China. "(No. 792a, Sept. 6, 1907.) A flat, pale-fleshed peach, juicy but somewhat insipid. Grows in rather sterile localities." (*Meyer.*)

21993. ZIZYPHUS SATIVA Gaertn. **Chinese date.**

From Shantung Province, China. "(No. 793a, Aug.–Sept., 1907.) Seeds collected at different points. Perhaps good varieties will appear among them." (*Meyer.*)

21994. ZIZYPHUS SATIVA Gaertn. **Chinese date.**

From Chingchowfu, Shantung, China. "(794a, Aug. 22, 1907.) A fine, flat variety of jujube. Quite rare. Chinese name *Tuen ku lu tsao*." (*Meyer.*)

21995. ZIZYPHUS LOTUS (L.) Lam.

From near Boshan, Shantung, China. "(No. 795a, Sept. 19, 1907.) A wild form of the 'jujube,' used for stock for the large-fruited varieties. Grows in the driest and most sterile locations. A very bad weed. Chinese name *Suan tsao*." (*Meyer.*)

21996. ZIZYPHUS SATIVA Gaertn. **Chinese date.**

From Chinanfu, Shantung, China. "(No. 796a, Sept. 22, 1907.) A flat, brown-colored variety of the jujube. Very sweet. Chinese name *Tun ku yu tsao*." (*Meyer.*)

21997. PINUS BUNGEANA Zucc. **Pine.**

From Taiyuanfu, Shansi, China. "(No. 797a, May 11, 1907.) Chinese name *Kuotse*. Sold on the streets as delicacies. Said to come from northern Shansi." (*Meyer.*)

21967 to 22023—Continued.

21998. Dolichos lablab L. **Hyacinth bean.**

From Boshan, Shantung, China. "(No. 798a, Sept. 18, 1907.) Chinese name *Pai pien tau.* Are mostly eaten fresh; also are sliced like haricot beans and boiled. They will probably grow in the semiarid regions of the Southwestern States where the ordinary string beans fail. Mostly seen along the fields grown upon trellises." (*Meyer.*)

21999. Glycine hispida (Moench) Maxim. **Soy bean.**

From Boshan, Shantung, China. "(No. 799a, Sept. 18, 1907.) A rare variety of soy bean, sparsely grown near Boshan. Chinese name *Ta ha tau.* Used by the higher classes as a vegetable in soups." (*Meyer.*)

22000. Phaseolus radiatus L. **Mung bean.**

From near Tientsin, Chihli, China. "(No. 800a, Oct. 4, 1907.) Small yellow beans. Chinese name *Huang lu tou.* A very rare variety, used for making bean vermicelli and for sprouting purposes." (*Meyer.*)

22001. Medicago sativa L. **Alfalfa.**

From Tchangtchou, Chihli, China. "(No. 801a, Oct. 2, 1907.) A rather short growing variety of alfalfa. Said to resist alkali and drought very well. Chinese name *Mu su.*" (*Meyer.*)

22002. Oryza sativa L. **Rice.**

From Tsintse, Shansi, China. "(No. 802a, May 6, 1907.) A hard, wet-land rice. Chinese name *Ying ta mi.* Grows in irrigated fields and is considered the very best rice of Shansi. Might be grown in the irrigated valleys of the Rocky Mountain States." (*Meyer.*)

22003. Triticum aestivum L. **Wheat.**

From Taiyuanfu, Shansi, China. "(No. 803a, May 11, 1907.) Chinese name *Hong mei.* The best red wheat to be had on the market. Thrives very well on alkaline lands. Is mostly grown as a winter wheat, though also in a limited degree as a summer crop. Stands irrigation well." (*Meyer.*)

22004. Triticum aestivum L. **Wheat.**

From Taiyuanfu, Shansi, China. "(No. 804a, May 11, 1907.) Chinese name *Pai mei.* The best white wheat for sale in Taiyuanfu. Grows well on strongly alkaline soils. Mostly grown as a winter wheat, though also as a summer crop. Is often irrigated when on high, dry land." (*Meyer.*)

22005. Avena nuda inermis (Körnicke) Asch. & Graeb.

From Taiying, Shansi, China. "(No. 805a, Apr. 18, 1907.) Mountain oats. Chinese name *Shi yu mei.* Grows on sterile mountain sides and at high elevations. When ground up the meal is manufactured into vermicelli, cakes, bread, and patties. Furnishes the ordinary food for the mountain people." (*Meyer.*)

22006. Fagopyrum tataricum (L.) Gaertn.

From Lingchin, Shansi, China. "(No. 806a, Apr. 17, 1907.) Mountain buckwheat. A strange kind of buckwheat used as a summer crop on high, sterile lands. The grains are ground up and vermicelli and flat cakes are made from the flour. Chinese name *Chou mei.*" (*Meyer.*)

22007. Pisum arvense L. **Field pea.**

From Taiyuanfu, Shansi, China. "(No. 807a, May 11, 1907.) Grayish pea. Chinese name *Wau tou.* The peas are boiled in soups and used as a vegetable when sprouted; the young tops, too, are picked and serve as greens. Is able to thrive on strongly alkaline soils. May do well in the northern Rocky Mountain States." (*Meyer.*)

21967 to 22023—Continued.

22008. PHASEOLUS VULGARIS L. **Bean.**

From Taiyuanfu, Shansi, China. "(No. 808a, May 11, 1907.) Dwarf red bean. Chinese name *Hung tou.* Grows on rather alkaline soils; used green as haricot beans and also boiled, when dry, in soups. In warm localities can be grown twice during the season. May do well in the northern Rocky Mountain States." (*Meyer.*)

22009. AMYGDALUS DAVIDIANA (Carr.) Dippel.

From Tientsin, Chihli, China. "(No. 809a, Oct. 5 and 7, 1907.) Chinese name *Shan tao shu.* Sent under Nos. 728a and 9a (S. P. I. Nos. 21227 and 18262) on former occasions. Very resistant to droughts and alkaline matter. The Chinese use this tree as grafting stock for their flowering peaches and prunes; also as a stock for small bush cherries (*Ying tao*); even apricots are grafted on it. To be used as a stock for peaches, almonds, prunes, plums, etc." (*Meyer.*)

22010. ANDROPOGON SORGHUM (L.) Brot. **Sorghum.**

From Chingshan, Shantung, China. "(No. 810a, Aug. 12, 1907.) Chinese name *Chi tse ya tse.* A very rare dwarf variety of sorghum, not growing higher than 3 feet and making dense heads. Grows on shallow, sterile soils and matures much earlier than the taller growing varieties. May do well in the semiarid regions of the western United States." (*Meyer.*)

22011. ANDROPOGON SORGHUM (L.) Brot. **Sorghum.**

From near Chufoo, Shantung, China. "(No. 811a, Sept. 7, 1907.) A red-stemmed variety used in the manufacture of mattings, of which pretty specimens may be seen once in a while." (*Meyer.*)

22012. ANDROPOGON SORGHUM (L.) Brot. **Sorghum.**

From near Chungdün, Shantung, China. "(No. 812a, Sept. 29, 1907.) A very tall growing, loose-headed variety of sorghum. The thrashed-out heads are utilized in broom manufacture. Stands alkali well." (*Meyer.*)

22013. GARDENIA JASMINOIDES Ellis.

From Chinanfu, Shantung, China. "(No. 813a, Aug. 26, 1907.) Seeds of a dye plant. Chinese name *Tsi tsse.* Used in giving the bean jelly and bean vermicelli a clear yellow color. Probably a southern plant." (*Meyer.*)

22014. IRIS ENSATA Thunb.

From Taiying, Shansi, China. "(No. 814a, Apr. 18, 1907.) A very low-growing Iris; can stand lots of cold, drought, and trampling over. Grows at high altitudes, 3,000 to 5,000 feet. Perhaps fit as a rockery plant." (*Meyer.*)

22015. IRIS ENSATA Thunb.

From Wutaishan, Shansi, China. "(No. 815a, Apr. 25, 1907.) Probably the same as No. 814a (S. P. I. No. 22014), but growing at an elevation of 8,000 feet above sea level." (*Meyer.*)

22016. LYCIUM CHINENSE Mill. **Matrimony vine.**

From Lungtung, Shantung, China. "(No. 816a, Sept. 28, 1907.) A matrimony vine growing in rocky hedges. Rather large, vivid red berries. May be of use as an ornamental porch vine." (*Meyer.*)

22017. SOLANUM sp.

From Boshan, Shantung, China. "(No. 817a, Sept. 19, 1907.) A rather ornamental Solanum bearing blue flowers, followed by scarlet berries. May be of use as a semiornamental vine." (*Meyer.*)

22018. ASPARAGUS sp.

From Boshan, Shantung, China. "(No. 818a, Sept. 19, 1907.) A wild, rather ornamental asparagus." (*Meyer.*)

21967 to 22023—Continued.

22019. Hemerocallis sp.

From Laushan, Shantung, China. "(No. 819a, Aug. 5, 1907.) The flower buds of this fine, yellow, night-flowering lily are eaten by the Chinese, steamed like a vegetable, though very insipid." (*Meyer.*)

22020. Capnoides sp.

From Taishan, Shantung, China. "(No. 820a, Sept. 10, 1907.) A yellow-flowering Capnoides growing at elevations from 3,000 to 5,000 feet. Quite ornamental when seen in its native haunts between rocks. May be of use as a rockery plant." (*Meyer.*)

22021. Sesamum orientale L. **Sesame.**

From near Laoliang, Shantung, China. "(No. 821a, Sept. 30, 1907.) Seeds from a large-growing variety of this useful oil plant. Could be grown in the semiarid regions of the southwestern United States as a fine oil producer." (*Meyer.*)

22022. Arachis hypogæa L. **Peanut.**

From Peking, Chihli, China. "(No. 824a, Oct. 22, 1907.) A small variety of peanut, said by the Chinese to contain much more oil than the larger ones. Is used all through the land as an appetizer, after having been steamed with salt water and then kept in weak brine. Quite nice to eat in that way." (*Meyer.*)

22023. Solanum melongena L. **Eggplant.**

From Peking, Chihli, China. "(No. 825a, Nov. 5, 1907.) Golden eggplant. Chinese name *Chin cha.* Is often grown as an ornamental pot plant by the Chinese, bearing fruits just about the size of a small egg, which when young are white colored, later on turning into a golden yellow. If not known will be appreciated as a novelty." (*Meyer.*)

22024. Widdringtonia whytei Rendle.

From Mlanji, Nyassaland, British Central Africa. Presented by Mr. Henry Brown, through Mr. O. W. Barrett. Received February 24, 1908.

"Seed taken from cedar trees 100 feet high and 14 feet in circumference. The tree is a fast grower and makes a handsome avenue tree. It grows at elevations varying from 2,000 to 8,000 feet. The wood is scented and very oily, burning like a candle when dry. It is used here for furniture making, etc." (*Brown.*)

22025. Dolichos lablab L. **Hyacinth bean.**

From Arlington Experimental Farm, Virginia. Grown during the season of 1907 under C. V. P. No. 0107. Received in autumn of 1907.

"Original seed presented by J. M. Thorburn & Co., New York.
"An early variety, which matured before all others at Arlington Farm. Promising for growing with corn for hay or silage." (*Piper.*)

22026. Panicum maximum Jacq. **Guinea grass.**

From Saharunpur, Northwest Province, British India. Presented by Mr. A. C. Hartless, superintendent, Government Botanic Gardens. Received February 25, 1908.

22027. Triticum sp. **Wheat.**

From Lima, Peru. Presented by Mr. T. F. Sedgwick, director, Estación Experimental. Received February 25, 1908.

"*Cardial.* Seed of a large-kerneled wheat grown in the mountain districts of Peru." (*Sedgwick.*)
"This is either a Polish wheat or one of the large-kerneled durums, a question which could be determined on seeing it growing in the field. It is something that would be very interesting for some of our work in the intermountain districts; also for use in dry-land cereal work." (*Carleton.*)

22029. ASPARAGUS AFRICANUS Lam.

From Pretoria, Transvaal, South Africa. Presented by Prof. J. Burtt Davy, government agrostologist and botanist, Transvaal Department of Agriculture. Received February 18, 1908.

For the use of asparagus breeders.

22031 and 22032. STIZOLOBIUM CAPITATUM (Roxb.) Kuntze.

From Australia. Presented by Mr. J. H. Maiden, director, Botanic Gardens, Sydney, New South Wales, through Mr. C. V. Piper. Received February 21, 1908.

22031. *Black Mauritius* bean. From Sydney, New South Wales.

22032. *Black Mauritius* bean. From Kamerunga, Cairns, Queensland.

22033. GLYCYRRHIZA GLABRA L. **Licorice.**

From Patras, Greece. Presented by Hon. F. B. Wood, British consul. Received February 25, 1908.

"Licorice roots from the plants which grow wild in this country." (*Wood.*)

22034. LATHYRUS MARITIMUS (L.) Bigel. **Beach pea.**

From Woods Hole, Mass. Procured by Mr. A. J. Pieters, Hollister, Cal., in October, 1903, and presented to the Department December 27, 1907.

22035. TRIFOLIUM SUAVEOLENS Willd. **Fragrant clover.**

From Erfurt, Germany. Purchased from Mr. Ernst Benary. Received February 29, 1908.

"An annual clover sparingly used as an ornamental, but which may prove to be useful when used after the manner of crimson clover. It is perfectly hardy as far north as Washington." (*Piper.*)

22036 to 22049. PISUM ARVENSE L. **Canada field pea.**

From Brandon, Manitoba, Canada. Presented by Mr. James Murray, experimental farm, through Mr. C. V. Piper. Received February 28, 1908.

22036. *Agnes.*
22037. *Archer.*
22038. *Arthur.*
22039. *Chancellor.*
22040. *Daniel O'Rourke.*
22041. *Gregory.*
22042. *Mackay.*
22043. *Nelson.*
22044. *Paragon.*
22045. *Picton.*
22046. *Prince.*
22047. *Prince Albert.*
22048. *Victoria.*
22049. *Wisconsin Blue.*

22050. VIGNA UNGUICULATA (L.) Walp. **Cowpea.**

Grown at Amarillo, Tex., by Mr. A. H. Leidigh, Grain Investigation Experiment Farm, season of 1907.

Turney's Black-Eye. "Original seed procured from Mr. Turney, Channing, Tex., through Mr. Leidigh, spring of 1905." (*Conner.*)

22051 to 22055. VIGNA UNGUICULATA (L.) Walp. **Cowpea.**

Grown at Arlington Experimental Farm, Virginia, season of 1907.

22051. *Speckled Crowder.*

"(S. Lab. No. 51136.) Original seed procured from Mr. J. B. Bremie, Tazewell, S. C., through the Seed Laboratory, spring of 1907." (*Nielsen.*)

22051 to 22055—Continued.

22052. *Black Crowder.*

"(S. Lab. No. 52460.) Original seed procured from Mr. Simeon Fippin, R. F. D. No. 4, Cookville, Tenn., through the Seed Laboratory, spring of 1907." (*Nielsen.*)

22053. Near *Michigan Favorite.*

"(S. Lab. No. 51580.) Original seed procured from Mr. T. M. Marshall, R. F. D. No. 4, Walnut Cove, N. C., through the Seed Laboratory, season of 1907." (*Nielsen.*)

22054. *Volunteer.*

"Original seed grown by Mr. J. P. Hogan, Robinsonville, Miss. Presented to the Department by Mr. Joseph Vaulx, Nashville, Tenn., who procured the seed April 16, 1907.

"This pea has been grown near the mouth of the Arkansas River in Arkansas and across the Mississippi River in Mississippi for at least forty years, having volunteered from year to year in all that time. It is apparently very prolific." (*Nielsen.*)

22055. *Volunteering Iron.*

"Originally planted on Arlington Experimental Farm for seed in 1904, and has volunteered from year to year, this seed being saved in the fall of 1907. This is the only cowpea which has been known to volunteer at Arlington Farm, and may prove of value on that account." (*Nielsen.*)

22058 and 22059. Hordeum spp. Barley.

From Madison, Wis. Presented by Prof. R. A. Moore, Agricultural Experiment Station. Received March 2, 1908.

22058. Hordeum distichon erectum Schubl.

Primus. Grown from No. 19779.

22059. Hordeum distichon nutans Schubl.

Princess. Grown from No. 19780.

22060. Zea mays L. Corn.

From the Esperanza district, Puebla, Mexico. Secured by Prof. H. Pittier, of the Bionomic Investigations, Bureau of Plant Industry. Received February, 1908.

Drought-Resisting. "A variety cultivated on the high plateau between Mexico City and Orizaba, in a very dry climate, with little rain and subject to strongly marked extremes of temperature. An excellent type, producing medium-sized ears with very small cobs. Should be well adapted for the semi-arid districts of the Southwest." (*Pittier.*)

22061 to 22075.

From Hilo, Hawaii. Presented by Mr. L. C. Lyman, principal, Hilo Boarding School, through Mr. O. W. Barrett. Received March 4, 1908.

The following rhizomes:

22061 to 22065. Musa spp. Bánana.

22061. *Elcele.*
22062. *Manaiula* or *Malaiula.*
22063. *Bolabola* or *Kusai.*
22064. *Ihōlena.*
22065. *Acae* or *Striped.*

22066 to 22075. Colocasia spp. Taro.

22066. *Ulaula Kumu.*
22067. *Makaua.*
22068. *Ohe.*
22069. *Ulaula palili.*

22061 to 22075—Continued.

22066 to 22075—Continued.

22070. *Pikokea.*

22071. *Maua melemele* or *Maua ulu.*

22072. *Weheiva.*

22073. *Ulaula uahi apele.*

22074. *Ahakea.*

22075. *Papa puco.*

22076. Toona ciliata Roem.

From Ventimiglia, Italy. Presented by Mr. Alwin Berger, La Mortola. Received February 11, 1908.

"A large, nearly evergreen tree of rapid growth, similar in habit to *Ailanthus glandulosa*. A good tree for avenues in California, etc." (*Berger.*)

22077 to 22079. Pisum arvense L. Field pea.

Grown at Pullman, Wash., season of 1907.

22077.

(C. V. P. No. 0396.) Received as *Pisum thebaicum* from Madrid Botanic Gardens.

22078.

(C. V. P. No. 0451.) Received as *Pisum abyssinicum* from Royal Botanic Gardens, Dublin, Ireland.

22079. *Peluschka.*

(C. V. P. No. 0456.) From Germany.

22081. Chrysanthemum sp.

From Yokohama, Japan. Purchased from the Yokohama Nursery Company. Received March 3, 1908.

"Seed specially gathered by Tanehan, the famous chrysanthemum show gardener at Dangozaka, Tokyo. The seed is sown about the spring equinoxes (Mar. 19) here. About 10 per cent is said to germinate." (*S. Iida.*)

22082. Macadamia ternifolia F. Muell.

From Sydney, New South Wales, Australia. Presented by Mr. J. H. Maiden, director of the Botanic Gardens. Received at the Plant Introduction Garden, Chico, Cal., April 19, 1907.

(P. I. G. No. 5336. For description see S. P. I. No. 18382.)

22083 to 22297. Nicotiana spp. Tobacco.

From Portici, Italy. Presented by Dr. O. Comes, Royal School of Agriculture. Received February, 1908.

22083 to 22100. [a] Nicotiana rustica L.

22083. Var. texana subcordata.

22084. Var. brasilia chlorantha.

22085. Var. brasilia oblongifolia (Hungary).

22086. Var. humilis rotundifolia.

22087. Var. rotundifolia.

22088. Var. jamaicensis rotundifolia.

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22083 to 22297—Continued.

22083 to 22100—Continued.

22089. Var. BRASILIA ROTUNDIFOLIA.

22090. Var. SCABRA OVATIFOLIA.

22091. Var. HUMILIS OVATIFOLIA.

22092. Var. BRASILIA OBLONGIFOLIA.

Brazile selvaggis.

22093. Var. JAMAICENSIS OVATIFOLIA.

22094. Var. OBLONGIFOLIA.

22095. Var. ASIATICA ROTUNDIFOLIA.

22096. Var. ASIATICA OVATIFOLIA.

22097. Var. TEXANA OVATIFOLIA (Calcutta).

22098. Var. TEXANA OVATIFOLIA SENEGALENSIS.

22099. Var. HUMILIS OBLONGIFOLIA.

22100. Var. BRASILIA OBLONGIFOLIA.

22101. NICOTIANA ALATA Link & Otto.

22102. NICOTIANA BIGELOVII ANGUSTIFOLIA.

22103. NICOTIANA GLUTINOSA L.

22104. NICOTIANA NOCTIFLORA ALBIFLORA.

22105. NICOTIANA QUADRIVALVIS Pursh.

22106. NICOTIANA SILVESTRIS Speg. & Comes.

22107 to 22297. NICOTIANA TABACUM L.

22107. Var. CALYCIFLORA.

22108. Var. FRUTICOSA BRASILENSIS MACROPHYLLA.

Nepal.

22109. [a] Var. FRUTICOSA ANGUSTIFOLIA.

22110. Var. FRUTICOSA BRASILENSIS HAVANENSIS.

Carabobo.

22111. Var. FRUTICOSA BRASILENSIS HAVANENSIS MACROPHYLLA.

Persician.

22112. Var. FRUTICOSA BRASILENSIS HAVANENSIS MACROPHYLLA.

Pravista.

22113. Var. FRUTICOSA BRASILENSIS LANCIFOLIA HAVANENSIS MACROPHYLLA.

Karchiaku.

22114. Var. FRUTICOSA BRASILENSIS LANCIFOLIA HAVANENSIS MACROPHYLLA.

Adakuvilatta.

22115. Var. FRUTICOSA BRASILENSIS LANCIFOLIA.

China.

22116 to 22123. Var. LANCIFOLIA BRASILENSIS HAVANENSIS.

22116. *Toolde.*

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22083 to 22297—Continued.

22107 to 22297—Continued.

22116 to 22123—Continued.

22117. *White Burley.*

22118. *Kuchivilatti.*

22119. *Kentucky.*

22120. *Cattaro.*

22121. *Brasile beneventano.*

22122. [a] *Little Orinoco.*

22123. [a] *Sweet Orinoco.*

22124 to 22129. Var. BRASILENSIS HAVANENSIS.

22124. [a] *Arumakappal.*

22125. [a] *Habana.*

22126. *Bahia.*

22127. [a] *Havana* (Plata).

22128. *San Paolo* (Brazil).

22129. *Iscre.*

22130 to 22150. Var. BRASILENSIS HAVANENSIS MACROPHYLLA.

22130. *Maryland.*

22131. [a] *Avanetto riccia.*

22132. [a] *Avanetto.*

22133. [a] *Czetnek* (Muscatell).

22134. *Goundi.*

22135. [a] *Persian.*

22136. [a] *Hungary.*

22137. *Beni-Schafom.*

22138. *Granville.*

22139. *Brazilian.*

22140. [a] *Campetana* (Carpanè).

22141. *Conception.*

22142. *Florida.*

22143. *Uganda.*

22144. *Bona' cabot.*

22145. *Adrianopolis.*

22146. [a] *Lamia.*

22147. *Capo Bona speranza.*

22148. *Chebli.*

22149. *Szegedin.*

22150. [a] *Avanone.*

22151. Var. BRASILENSIS FRUTICOSA HAVANENSIS MACROPHYLLA. *Latakia.*

22152. Var. BRASILENSIS HAVANENSIS VIRGINICA.

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22083 to 22297—Continued.

22107 to 22297—Continued.

22153 to 22158. Var. VIRGINICA HAVANENSIS BRASILENSIS.

22153. *Hester.*

22154. [a] *Virginia Bright.*

22155. *Lacks.*

22156. *Big Orinoco.*

22157. *Prior.*

22158. *White Orinoco.*

22159. Var. VIRGINICA BRASILENSIS HAVANENSIS LANCIFOLIA.

Famous.

22160. Var. VIRGINICA BRASILENSIS HAVANENSIS MACROPHYLLA.

Hyco.

22161 to 22166. Var. HAVANENSIS MACROPHYLLA.

22161. *Havana.*

22162. *Kadoc* (Java).

22163. *Bezocki* (Java).

22164. *Loemadjang.*

22165. *Pekalongan* (Java).

22166. *Honduras.*

22167. [a] Var. HAVANENSIS ANGUSTIFOLIA BRASILENSIS MACROPHYLLA.

Shiraz (Persia).

22168 to 22173. Var. MACROPHYLLA HAVANENSIS.

22168. *Kawala.*

22169. *Curco aromatico.*

22170. *Ayasoluk.*

22171. *Xanthi Yaka.*

22172. *Varinas.*

22173. *Venezuelan.*

22174. Var. MACROPHYLLA HAVANENSIS BRASILENSIS.

Almyros.

22175. Var. MACROPHYLLA HAVANENSIS BRASILENSIS.

Karditza.

22176. Var. MACROPHYLLA PURPUREA.

22177. *Saloniki.*

22178. *Neder Betuwe.*

22179. *Mirodatos.*

22180. *Doniaku Chodiaku.*

22181. *Portorico.*

22182. *Schaufeltabak.*

22183. [a] *Tenedie taka.*

22184. [a] *Secco grande cicatrice.*

22185. *Chilena grande d'Itá* (Paraguay).

22186. *Doxato* (Drama).

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22083 to 22297—Continued.

22107 to 22297—Continued.

22187. *Hercegovina Trebinje.*
22188. *Ile-et-Vilaine.*
22189. *Pas de Calais.*
22190. [a] *Friedrick.*
22191. [a] *Paraguay.*
22192. [a] *Sumatra.*
22193. *Remedios.*
22194. *Partidos.*
22195. [a] *Over Betuwe.*
22196. *Verpelet.*
22197. *Neder Veluwe.*
22198. *Spitzblättrige.*
22199. *Spaza.*
22200. *Sofades.*
22201. *Chilena piccola d'Itâ* (Paraguay).
22202. *Sumatra Deli* (Java).
22203. *Cannella Villa-Rica* (Paraguay).
22204. *Baffra.*
22205. *Salento.*
22206. *Ezeloor.*
22207. *Argos.*
22208. *Maas en Vaal.*
22209. *Sardegna rigudio.*
22210. *Tennessee Red.*
22211. *Singapur.*
22212. *Ecuador.*
22213. [a] *Sarg. di Fersala.*
22214. *Cannella d'Itâ.*
22215. *Samsun.*
22216. *Samsun.*
22217. [a] *Manilla gele.*
22218. [a] *Over Veluwe.*
22219. *Buhlerthaler.*
22220. *Yedarit.*
22221. *Arby turkish.*
22222. *Valikappal.*
22223. *Katarumona.*
22224. *Fricdrichsthaler.*
22225. *Hercegovina Ljubuski.*
22226. *Appelterre.*
22227. *Grammont.*
22228. *Tuckahoe.*
22229. *Dragon.*
22230. *Haute Saone.*
22231. *Hercegovina Stolach.*
22232. [a] *Manilla groena.*
22233. *Pumphala.*
22234. *Brandley.*
22235. *Granville Yellow.*
22236. *Comstock.*
22237. *Choice Harana.*
22238. *Tabac du Lot.*
22239. *Tabac du Nord.*
22240. *Big Orinoco.*
22241. *Cuban Seed Leaf.*
22242. *Valam.*
22243. *Moro di Cori.*
22244. *Evans.*
22245. *Goock.*
22246. *Bonanza.*
22247. *Northeimer.*
22248. *Gold Finder.*
22249. *Safran.*
22250. *Blue Prior.*
22251. *Pumpelly.*
22252. *Tilly.*
22253. *Missouri Seed Leaf.*
22254. *Connecticut Seed Leaf.*
22255. *Rhodus.*
22256. *General Grant.*

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22083 to 22297—Continued.

22107 to 22297—Continued.

22257. *Onc Sucker.*

22258. *Premium.*

22259. *Kediric* (Java).

22260. *Deli Sumatra* (S. Paolo, Brazil).

22261. *Bullion.*

22262. *Missouri.*

22263. *Cuba.*

22264. *Doniaku.*

22265. *Szulok.*

22266. *Pennsylvania Seed Leaf.*

22267. *Sterling.*

22268. *Havana Seed Leaf.*

22269. *Landreth.*

22270. *Foglia grande di Villa-Rica* (Paraguay).

22271. *Virginia Dienze.*

22272. *Elsasser.*

22273. *Nepal.*

22274. [a] *Monikappal.*

22275. *China* (China).

22276. [a] *Secco nodo corto.*

22277. *Monnaikappal.*

22278. *Vuelta Abajo.*

22279. *Hoonan.*

22280. *Pichai di Villa-Rica* (Paraguay).

22281. *Florida Seed Leaf.*

22282. *Deli.*

22283. *Flanagan.*

22284. *Oak Hill Yellow.*

22285. *Conqueror.*

22286. *Best Prior.*

22287. *Havana* (Cuba).

22288. *Oburg.*

22289. *Clardy.*

22290. *Big Havana.*

22291. *Yellow Monmouth.*

22292. *Xanthi Kawala.*

22293. *Secco Sardegna.*

22294. *Karnukappal.*

22295. *Climax.*

22296. *Tabac del Lede.*

22297. *Lot-et-Garonne.*

22298. Canavali sp.

From Jaal, Luzon, P. I. Presented by Dr. H. M. Smith, Deputy Commissioner of Fisheries, Department of Commerce and Labor, Washington, D. C. Received March 3, 1908.

"A variety of bean which grows in hot, dry, sandy soil in various parts of Luzon, the vines attaining a length of 20 feet and having an abundance of large, succulent leaves." (*Smith.*)

22299 to 22301. Andropogon sorghum (L.) Brot.

From Monmouth, Ill. Presented by Mr. Samuel H. Weed, through Mr. C. V. Piper. Received February, 1908.

22299. Dark red hulled.

22300. Red hulled.

22301. Yellow hulled.

"A sweet or saccharine broom corn or broom sugar cane produced by hybridization and selection for seven years." (*Weed.*)

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22302. Oryza sativa L. **Rice.**

From Venice, Italy. Presented by Consorti Sullam. Received March 11, 1908.

"Seeds of Spanish rice." (*Sullam.*)

22303 to 22305. Hordeum spp. **Barley.**

From Svalöf, Sweden. Purchased from the Allmänna Svenska Utsädesaktiebolaget. Received March 12, 1908.

22303. Hordeum distichon erectum Schubl.

Primus.

22304. Hordeum distichon nutans Schubl.

Prinsess.

22305. Hordeum distichon erectum Schubl.

Svanhals.

22306. Avena sativa L. **Oat.**

From Svalöf, Sweden. Presented by the Allmänna Svenska Utsädesaktiebolaget. Received March 12, 1908.

Victory. "This is the variety which of all our new races has given the highest yield." (*Allmänna Svenska Utsädesktiebolaget.*)

22308 to 22312.

From Shanghai, Kiangsu, China. Presented by Rev. J. M. W. Farnham, Chinese Tract Society. Received March 11, 1908.

22308. Zea mays L. **Corn.**

"A peculiar kind of corn. There are several colors but they are said to be all the same variety. The corn is much more glutinous than other varieties so far as I know and may be found to be of some use, perhaps as porridge." (*Farnham.*)

22309. Oryza sativa L. **Rice.**

"Seeds of a glutinous rice which we use for breakfast porridge and the like. I am told they sow it two weeks earlier than other rice, which would necessitate planting it about March 8. The Chinese hang this seed (paddy) in a bag in water—say in a tub—exposed to the sun and air till it sprouts, and then sow it thick in the mud of a small pond, the mud having been fertilized with ashes and carefully prepared before the water is turned on. Here, a little more than covered with water, it is allowed to grow until from 4 to 6 inches tall. It is then taken up in small clusters and set out in the rice fields, the mud having been prepared and covered with water the same way. I suppose the Americans have as good or better methods." (*Farnham.*)

22310. Phaseolus angularis (Willd.) W. F. Wight. **Adzuki bean.**

Red.

22311. Glycine hispida (Moench) Maxim. **Soy bean.**

Black. "Similar to *Nuttall* but larger." (*Neilson.*)

22312. Glycine hispida (Moench) Maxim. **Soy bean.**

Yellow.

22313 to 22315. Zea mays L. **Corn.**

From Buitenzorg, Java. Presented by Dr. M. Treub, director of the Department of Agriculture. Received February 11, 1908.

22313. "*Madaera.*"

22314. "*Menado.*"

22315. "*Favaansch.*"

22316. Operculina tuberosa (L.) Meissn.

From Miami, Fla. Received through Mr. Ernst A. Bessey, pathologist in charge of Subtropical Laboratory and Garden, March 14, 1908.

"Grown from S. P. I. No. 17835. This is a large ornamental vine belonging to the morning glory family. It is a vigorous grower, producing plants sometimes 30 to 50 feet long. The stems are woody and often in two years reach a thickness of one's arm. The flowers are large, yellow in color, and borne with great profuseness, making the plant very ornamental at the flowering period. It is grown to a limited extent around Miami and, if not already introduced there, may find favor in parts of California and other places where frost does not occur. This seed was obtained from a vine at the Subtropical Laboratory and Garden." (*Bessey.*)

22317 to 22322. Glycine hispida (Moench) Maxim. Soy bean.

From Erfurt, Germany. Purchased from Haage & Schmidt. Received March 16, 1908.

22317. Probably *Butterball.*

22318. "*Giant Yellow.*" Probably *Amherst.*

22319. Brown.

22320. *Samarow.* Like No. 17260.

22321. Probably *Cloud.*

22322. "*Early Black* from Podolia." Probably *Buckshot.*

22323 and 22324.

From Fort Sandeman, Baluchistan. Received from Lieut. Col. G. C. French, I. A., political agent in Zhob, through Prof. E. P. Stebbing, imperial forest zoologist to the Government of India, Calcutta, India, March 11, 1908.

22323. Pistacia khinjuk Stocks. **Pistache.**

22324. Olea ferruginea Royle. **Olive.**

"Tree 30 to 50 feet high. The wood is hard and is highly prized for turning and for agricultural implements. It takes a high polish. An oil is extracted from the fruit." (*Brandis, For. Fl. Ind.*, p. 307.)

22325 to 22332. Andropogon sorghum (L.) Brot. Durra.

From Khartoum, Sudan, Africa. Presented by Mr. R. Hewison, agricultural inspector, agricultural and lands department, Sudan government, through Mr. C. V. Piper. Received March 16, 1908.

"Representative durras, or at least not kafirs; some may prove not to belong to the durra group as we understand it." (*C. R. Ball.*)

Seed of the following, with the localities in which they are commonly found. Varietal description, by Mr. C. R. Ball.

22325. *Kassabi.* Singa and Wad Medani, Blue Nile.

Probably identical with the "durra beda" of Egypt.

22326. *Hegari.* Singa and Wad Medani, Blue Nile.

22327. *Mugud.* Wad el Fahl, Blue Nile.

22328. *Feterita.* All over the durra area in the Sudan.

Seed is like No. 19517.

22329. *Fiki Mistahi.* Singa, Blue Nile.

22330. *Wad Akar.* Karkog, Blue Nile.

22331. *Nab el Tor.* Blue Nile.

22332. *Homeizi Asfar.* Singa, Blue Nile.

Seed is like Agros. No. 1456, *Hamaisee*, from the Sudan.

22333 to 22337. Glycine hispida (Moench) Maxim. Soy bean.

Grown at Arlington Experimental Farm, Virginia, season of 1907. Received March 19, 1908.

22333. *Baird.*

"This variety was mixed with *Brownie* when received from Pingyang, Korea. This mixture was given S. P. I. No. 6414. The two varieties were grown together under these numbers, 9417, 17256, and Agros. No. 1542, respectively. The two varieties were separated in the 1907 seed from Arlington Farm, and *Baird* given the above new number, *Brownie* remaining as No. 17256." (*Nielsen.*)

22334. Flat black.

"Received from Mr. H. B. Derr, Agricultural Experiment Station, Champaign, Ill. The original source of the seed is not known. It is quite similar in growth to *Nuttall*, but the seed is not the same shape, being flatter and larger." (*Nielsen.*)

22335. Yellow.

"Received from Mr. H. B. Derr, Agricultural Experiment Station, Champaign, Ill., where it was grown as *Illinois Medium Yellow*. It is very similar to *Hollybrook*, and perhaps is the same, but appears different on account of having been grown farther north." (*Nielsen.*)

22336. *Guelph.*

"Received from Mr. H. B. Derr, Agricultural Experiment Station, Champaign, Ill. Original seed was procured from the Agricultural Experiment Station, Wooster, Ohio." (*Nielsen.*)

22337. *Guelph.*

"Received from Mr. H. B. Derr, Agricultural Experiment Station, Champaign, Ill. Original seed was procured from the Agricultural Experiment Station, Fayetteville, Ark." (*Nielsen.*)

22338. Capsicum annuum L. Pepper.

From Houston, Tex. Presented by Mr. J. Milton Howe, 204 Commercial National Bank Building. Received March 12, 1908.

"*Jalapa.* This pepper has a medium-sized, heavy-fleshed pod and is principally used for pickling. In its pickled condition it is very much prized by both Mexicans and visiting Americans. At present, I am importing them direct (from Mexico) for my own use and the use of my immediate friends. They take so well that I feel confident that there is an opening for their introduction into this country.

"The pickling process is apparently a brine followed by packing in vinegar." (*Howe.*)

22341. Pueraria thunbergiana (Sieb. & Zucc.) Benth. Kudzu.

From New York, N. Y. Purchased from J. M. Thorburn & Co. Received March 20, 1908.

"Kudzu is a large-leaved, very rapid growing, woody, leguminous vine, native to Japan. It succeeds well in every part of the United States where it has been tried, and where the summers are warm grows with great luxuriance. It is a most excellent vine for arbors or to produce a tropical effect by growing over low trees. In Japan a valuable fiber is made out of the stems, and from the large roots a fine quality of starch is extracted.

"Kudzu also furnishes abundant and nutritious forage, and should be largely experimented with for this purpose. In Japan it is grown on rough, rocky land or steep hillsides that can not be cultivated. In this country it should also be tested on lands too poor to be cultivated with profit. Kudzu being a legume will add nitrogen to the soil in addition to producing forage, and if at any future time it should be desirable to clear the land the starch crop of the roots will probably yield more than the cost. Kudzu may be used

22341—Continued.

either for pasturage or as green feed, though hay can be made of it. It will probably be best used as pasture and it is desirable to have two such pastures to be browsed alternately.

"*Directions for planting:* The seed should be started in a seed bed and the plants transplanted after they are well rooted. They should be planted 10 to 20 feet apart. The first season they will produce stems 6 to 12 feet long and by the end of the second season should entirely cover the ground." (*Piper.*)

(See also S. P. I. No. 9227.)

22342 to 22348.

From Peking, Chihli, China. Received through Mr. Frank N. Meyer, agricultural explorer, at the Plant Introduction Garden, Chico, Cal., February 4, 1908.

A collection of seeds, as follows:

22342. FAGARA AILANTHOIDES (S. & Z.) Engl.

From Boshan, Shantung, China. "(No. 778a, Sept. 19, 1907.) A few seeds of this ornamental tree, which is worth planting more extensively. Very handsome when in flower or when loaded with its scarlet capsules." (*Meyer.*)

22343. AMYGDALUS PERSICA L. **Peach.**

From Ningpo, Chehkiang, China. "(No. 827a, July 3, 1907.) Bought at Ningpo for trial to see if new types appear among them." (*Meyer.*)

22344. AMYGDALUS ARMENIACA (L.) Dum. **Apricot.**

From Ningpo, Chehkiang, China. "(No. 828a, July 3, 1907.) A very large apricot, bought in Ningpo, said to come from Shantung." (*Meyer.*)

22345. PRUNUS sp. **Cherry.**

From Peking, Chihli, China. "(No. 829a, May 20, 1907.) A very small fruited cherry, obtainable for a couple of weeks on the market in Peking. Edible, but almost too small for us whites; may be an ornamental shrub. Chinese name *Yue ye mei tão*, this name, however, may not be right." (*Meyer.*)

22346. RHUS sp.

From mountains near Peking, Chihli, China. "(No. 830a, May 27, 1907.) A shrub, sometimes growing into a small tree; grows among the rocks and on dry places. Fit to cover dry mountain sides in the southwestern regions of the United States so as to prevent the washing down of the soil." (*Meyer.*)

22347. REHMANNIA GLUTINOSA (Gaertn.) Libosch.

From Mingkien, Shansi, China. "(No. 831a, May 15, 1907.) A scrophulariaceous plant growing on old walls and on dry banks. Has rather large buff-purplish flowers. May be improved upon and become a garden plant for the arid regions of the United States." (*Meyer.*)

22348. CENTAUREA sp.

From mountains near Peking, Chihli, China. "(No. 832a, May 27, 1907.) A very large flowered Centaurea of blue-purplish color. Perhaps fit as an ornamental plant in dry regions." (*Meyer.*)

22349. PHRAGMITES VULGARIS LONGIVALVIS (Steud.) W. F. Wight. (PHRAGMITES LONGIVALVIS Steud.)

From Yokohama, Japan. Purchased from the Yokohama Nursery Company. Received March 19, 1908.

"*Phragmites vulgaris longivalvis* (Steud.) differs from the common form, *Phragmites communis* Trin., *P. vulgaris* Lam., *Arundo phragmites* L., *Phragmites phragmites* Karst., in having the lower glume elongated, the panicle thus

22349—Continued.

appearing to have broader spikelets and resembling *Arundo donax*. From the herbarium specimens this form appears to be more robust than *Phragmites vulgaris* as it occurs in Japan, the stem being as thick as one's little finger. Franchet and Savatier place this as a variety of *P. vulgaris*, with the remark that it is scarcely worthy of this recognition. The species is cosmopolitan and somewhat variable, and I think this form is scarcely more than a variety. It is to be noted, however, that the Japanese name for this is *Yoshu-take*, to distinguish it from *Yoshi*, the other form of *P. vulgaris*." (*A. S. Hitchcock.*)

22350 to 22378.

From Peking, Chihli, China. Received through Mr. Frank N. Meyer, agricultural explorer, March 20, 1908.

The following cuttings and seeds:

22350. DIOSPYROS KAKI L. f. **Persimmon.**

From Shifengtse Temple, west of Peking, Chihli, China. "(No. 208, Jan. 17, 1908.) A large, flat, seedless persimmon. Apparently a variety of the one sent under Nos. 104 and 105 (S. P. I. Nos. 16912 and 16921). As the trees were growing in a very well sheltered valley this large-fruiting quality may be due to the location. Chinese name *Ta shi tse*." (*Meyer.*)

22351. AMYGDALUS PERSICA L. **Peach.**

From Shifengtse Temple, west of Peking, Chihli, China. "(No. 211, Jan. 17, 1908.) Said to be a large peach of reddish color. Chinese name *Ta tau*." (*Meyer.*)

22352. AMYGDALUS PERSICA L. **Peach.**

From Shifengtse Temple, west of Peking, Chihli, China. "(No. 212, Jan. 17, 1908.) Said to be medium sized, very flat, and of reddish color. Chinese name *Pien tau*." (*Meyer.*)

22353. AESCULUS CHINENSIS Bunge.

From Tanchetse Temple, west of Peking, Chihli, China. "(No. 213, Jan. 19, 1908.) The Chinese horse-chestnut, a beautiful new shade tree, quite rare here in China. Scions formerly sent under No. 81 (S. P. I. No. 17736). As the tree is more closely related to the Pavias than to the Aesculus it will probably thrive better when grafted upon stock of the first group. Chinese name *So lo shu*." (*Meyer.*)

22354. AESCULUS CHINENSIS Bunge.

From Tanchetse Temple, west of Peking, Chihli, China. "(No. 216, Jan. 21, 1908.) The same as No. 213 (S. P. I. No. 22353) but from a different location. The same remarks apply to it. The largest specimens occur in the Tanchetse Temple, southwest of Peking, where the trunk of the biggest one measures 12½ feet in circumference." (*Meyer.*)

22355. POPULUS ALBA TOMENTOSA (Carr.) Wesmael.

From Hsiendjetse Temple, west of Peking, Chihli, China. "(No. 217, Jan. 21, 1908.) The large-leaved Chinese poplar as sent before under several numbers. These trees grow remarkably straight and tall. The Chinese prune the lower branches off, until there is often a clear trunk of 40 feet before the first branch is reached. May prove to be a very good street tree. Chinese name *Pai yang shu*." (*Meyer.*)

22356. SYRINGA sp.

From Changnantse Temple, west of Peking, Chihli, China. "(No. 218, Jan. 21, 1908.) Blue lilac. A very floriferous variety of lilac, with small leaves; very drought resisting. Chinese name *Lang ting hsien shu*." (*Meyer.*)

22350 to 22378—Continued.

22357. SYRINGA sp.

From Changnantse Temple, west of Peking, Chihli, China. "(No. 219, Jan. 21, 1908.) A white-flowering variety of lilac, said to be very fine. Also, like the preceding (S. P. I. No. 22356), very drought resistant. Chinese name *Pai ting hsien shu*." (*Meyer.*)

22358. AMYGDALUS PERSICA L. **Peach.**

From Poliping, west of Peking, Chihli, China. "(No. 221, Jan. 22, 1908.) A rather large peach of whitish color and said to be very fine; realizes high prices in Peking and is far from being easily obtained. The trees grow slowly and do not attain large dimensions, 7 to 8 feet seems to be the maximum height; they seem to suffer much from scales. Chinese name *Mi tau*, meaning honey peach. They grow on terraces in the mountains at 1,000 feet and more altitude." (*Meyer.*)

22359. AMYGDALUS PERSICA L. **Peach.**

From Poliping, west of Peking, Chihli, China. "(No. 222, Jan. 22, 1908.) A peach said to be very large, of red meat, and not so sweet as the preceding number (S. P. I. No. 22358), growing in the same localities and apparently very little attacked by scales. A thrifty grower, though not becoming tall. Chinese name *Hong tau, meaning red peach*." (*Meyer.*)

22360. AMYGDALUS PERSICA L. **Peach.**

From Poliping, west of Peking, Chihli, China. "(No. 223, Jan. 23, 1908.) A peach said to be almost like No. 221 (S. P. I. No. 22358), but of more thrifty growth and bearing much longer leaves, called as such *Ta ye tau*, meaning long-leaved peach. Growing under the same conditions as No. 221 (S. P. I. No. 22358) and very little attacked by scales. The soil in these mountains is reddish decomposed granite and does not seem to be very fertile." (*Meyer.*)

22361. PRUNUS sp. **Cherry.**

From Poliping, west of Peking, Chihli, China. "(No. 228, Jan. 22, 1908.) A tall-growing bush cherry, 10 to 15 feet high, bearing small cherries. Seems to be able to stand trying climatic conditions, such as drought and summer heat. Chinese name *Ying taur*." (*Meyer.*)

22362. DIOSPYROS KAKI L. f. **Persimmon.**

From Poliping, west of Peking, Chihli, China. "(No. 229, Jan. 22, 1908.) A large, flat, seedless persimmon, apparently the same as No. 104 (S. P. I. No. 16912). Chinese name *Ta shi tse*." (*Meyer.*)

22363. POPULUS BALSAMIFERA SUAVEOLENS (Fisch.) Wesm. **Poplar.**

From Shiling, Chihli, China. "(No. 230, Jan. 25, 1908.) A remarkable variety of the small-leaved Chinese poplar; looks like the Lombardy poplar, but makes a more pleasing impression. Loves a sandy, moisture-retaining soil. Chinese name *Tchau tien pai yang shu*, which is probably an erroneous name, as *pai yang* means the *Populus tomentosa*." (*Meyer.*)

22364. ULMUS MACROCARPA Hance. (?) **Elm.**

From Shiling, Chihli, China. "(No. 231, Jan. 25, 1908.) A shrubby elm, often having irregular, corky wings along its branches. Grows on very dry and rocky mountain slopes, growing from a couple of feet up to 20 or 30 feet high. Chinese name *Shan yu shu*. Seems to be very variable in its habitus." (*Meyer.*)

22365. DIOSPYROS KAKI L. f. **Persimmon.**

From Taidjatsoa, west of Pautingfu, Chihli, China. "(No. 232, Jan. 30, 1908.) A large, very flat persimmon of orange-red color; grows in great orchards in the mountain valleys. These fruits are flatter in shape, and also sweeter in taste, than Nos. 104 and 105 (S. P. I. Nos. 16912 and 16921), but they seem to love a warmer, more sheltered location. They form a very large item in the providing of a livelihood for thousands of

22350 to 22378—Continued.

people. The total amount of money received from around Taidjatsoa village for persimmons last fall amounted to $10,000 (Mexican). Chinese name *Ta mo pan shi tze.*" (*Meyer.*)

22366. Diospyros kaki L. f. **Persimmon.**

From Taidjatsoa, west of Pautingfu, Chihli, China. "(No. 233, Jan. 30, 1908.) A small, flat, seedless persimmon of orange-red color. While the very large variety ranges from 3 to 5 inches in diameter, this one varies between 2 and 3 inches; for this reason not much planted. Chinese name *Shau mo pan shi tze.* Like the large ones they also have the incision all around." (*Meyer.*)

22367. Diospyros kaki L. f. **Persimmon.**

From Taidjatsoa, west of Pautingfu, Chihli, China. "(No. 234, Jan. 30, 1908.) A small-fruited, seedless persimmon, not quite flat, which bears, besides the circular incision, two incisions across, which vary greatly in different fruits. The tree grows to a very much larger size than the ordinary flat-fruited ones. Apparently the same as sent under No. 97 (S. P. I. No. 16910). Chinese name locally for this variety is *Lien hua shi tze*, meaning lotus flower persimmon." (*Meyer.*)

22368. Diospyros kaki L. f. **Persimmon.**

From Taidjatsoa, west of Pautingfu, Chihli, China. "(No. 235, Jan. 30, 1908.) A small-fruited, yellow persimmon with seeds. A slow grower; has whitish bark; is rare. Chinese name *Neu sien shi tze.*" (*Meyer.*)

22369. Diospyros kaki L. f. **Persimmon.**

From Taidjatsoa, west of Pautingfu, Chihli, China. "(No. 236, Jan. 30, 1908.) A small-fruited, oblong, scarlet-red persimmon with seeds. Chinese name *Whoe shi tze shu.*" (*Meyer.*)

22370. Diospyros kaki L. f. **Wild persimmon.**

From Taidjatsoa, west of Pautingfu, Chihli, China. "(No. 237, Jan. 30, 1908.) A yellow-fruited variety of this tree upon which, in northeastern China, the Chinese graft all their improved varieties. The ordinary variety always has black fruits. Chinese name *Huang yuang tsao.*" (*Meyer.*)

22371. Malus sylvestris Mill. **Apple.**

From Taidjatsoa, west of Pautingfu, Chihli, China. "(No. 238, Jan. 30, 1908.) A white apple. The trees grow spreading and are long lived. Probably the same as No. 227 (S. P. I. No. 22440), but there is much variation among these Chinese apples. Chinese name *Pai ping kua.*" (*Meyer.*)

22372. Malus sylvestris Mill. **Apple.**

From Taidjatsoa, west of Pautingfu, Chihli, China. "(No. 239, Jan. 30, 1908.) A medium-sized red apple of sweet taste. The trees grow very spreading and are long lived. Chinese name *Hong teng kua.*" (*Meyer.*)

22373. Amygdalus persica L. **Peach.**

From Taidjatsoa, west of Pautingfu, Chihli, China. "(No. 243, Jan. 30, 1908.) Said to be a white peach with a red tip and having juicy meat. Chinese name *Pai tau hong tchor.*" (*Meyer.*)

22374. Thuya orientalis L.

From Peking, Chihli, China. "(No. 251, Feb. 6, 1908.) A wonderful branch variation of the ordinary *Thuya orientalis.* The Chinese call this variation *Fong Huang su*, meaning the rising phœnix tree." (*Meyer.*)

22375. Ulmus parvifolia Jacq. **Elm.**

From Peking, Chihli, China. "(No. 252, Feb. 6, 1908.) A tall, spreading elm, with many small branches bearing small leaves and flowering in fall. In the winter the bark peels off in curiously formed pieces. I

22350 to 22378—Continued.

have seen only two specimens in China during all my wanderings and these two grow in the grounds of the Temple of Heaven at Peking, from where these scions are taken." (*Meyer.*)

22376. GLEDITSIA SINENSIS Lam.

From Lungtsuantse Temple, west of Peking, Chihli, China. "(No. 901a, Jan. 17, 1908.) A Gleditsia bearing heavy, fleshy pods, which are utilized by the Chinese as a substitute for soap; they slice them up and pour boiling water over them and use them to wash fine clothes and also their hair. The pods contain a very biting substance which makes one sneeze when it enters the nostrils, and when it gets in the eyes it is even quite painful; they burn well in the fire; test them for their chemical properties. The tree itself is medium sized and makes a nice, round head; well fit to be used as an ornamental tree in parks and gardens; it is a slow grower. There is great variation among the trees so far as size and shape of pods are concerned. They are apparently in a state of mutation. Chinese name *Tsau jo shu.* Seeds sent formerly from different locations under Nos. 106a and 174a (S. P. I. Nos. 17889 and 18579). "Immerse the seeds for half a minute in boiling water to insure a uniform germination, as otherwise they may remain dormant for a year or even longer." (*Meyer.*)

22377. GLEDITSIA sp.

From Taidjatsoa, west of Pautingfu, Chihli, China. "(No. 902a, Jan. 30, 1908.) A tall, slender-stemmed locust, bearing small pods which are of no use to the people. It seems to be a very rare tree. Chinese name *Hoo li tchoi.* Give the seeds the same treatment as the preceding number (S. P. I. No. 22376)." (*Meyer.*)

22378. JUGLANS MANDSHURICA Maxim. **Walnut.**

From Tchitaitse Temple, west of Peking, Chihli, China. "(No. 910a, Jan. 16, 1908.) A peculiar kind of a wild walnut, growing here and there in the mountains." (*Meyer.*)

22379 to 22383.

From Canton, Kwangtung, China. Presented by Dr. J. M. Swan, Cooks Hospital. Received March 20, 1908.

22379 to 22381. GLYCINE HISPIDA (Moench) Maxim. **Soy bean.**

22379. Yellow.

22380. Black.

22381. Green mixed with yellow and a few brown.

22382. VIGNA UNGUICULATA (L.) Walp. **Cowpea.**

Brown-Eye.

22383. PHASEOLUS ANGULARIS (Willd.) W. F. Wight. **Adzuki bean.**

Red.

22384 to 22390.

From Buitenzorg, Java. Presented by Dr. M. Treub, director, Botanic Gardens. Received March 20, 1908.

22384. NEPHELIUM LAPPACEUM L.

22385. LANSIUM DOMESTICUM Jack.

22386. GARCINIA FUSCA Pierre.

22387. GARCINIA LOUREIRI Pierre.

22388. GARCINIA MANGOSTANA L.

22389. GARCINIA SIZYGIIFOLIA Pierre.

22390. GARCINIA TINCTORIA DC. (XANTHOCHYMUS TINCTORIUS DC.)

22391. VIGNA UNGUICULATA (L.) Walp. **Cowpea.**

From Manila, P. I. Presented by Mr. W. S. Lyon, through Mr. O. W. Barrett. Received March 23, 1908.

Probably *Iron*. "Seed procured from the New Guinea-Venezuela variety. Early, prolific, and vigorous. Harvested ripe pods 48 days from planting." (*Lyon.*)

22392. ARGYREIA NERVOSA (Burm.) Boj.

From Manila, P. I. Presented by Mr. W. S. Lyon, through Mr. O. W. Barrett. Received March 23, 1908.

"Original seed received from Mr. O. W. Barrett, under the name *Ipomoea* sp., from Brazil.

"A perennial growing to a length of 40 to 50 or more meters. Flowers a reddish violet color." (*Lyon.*)

22393. SESBAN GRANDIFLORA (L.) Poir.

From Rockhampton, Queensland, Australia. Presented by Mr. J. H. Maiden, director of the Botanic Gardens, Sydney, New South Wales. Received March 16, 1908.

(For description see S. P. I. Nos. 3786 and 5209.)

22394 to 22404. RAPHANUS SATIVUS L. **Radish.**

From Yokohama, Japan. Purchased from the Yokohama Nursery Company. Received March 16, 1908.

The following seeds with Japanese varietal names:

22394. *Kamcido.*
22395. *Hosane.*
22396. *O-maru.*
22397. *Nerima.*
22398. *Nincngo.*
22399. *Sakurajima.*
22400. *Scigoin.*
22401. *Natsu-daikon* or *Summer* radish.
22402. *Owari-Miyajiu.*
22403. *Kairyo-Miyajiu.*
22404. *Toki-maki.*

22405. SOLANUM sp.

From Nice, France. Presented by Dr. A. Robertson-Proschowsky, through Mr. O. W. Barrett. Received March 6, 1908.

"A very ornamental Solanum, a small tree covered with thousands of red fruits (possibly from Peru)." (*Proschowsky.*)

22406 to 22410.

From Hongkong, China. Presented by Mr. S. T. Dunn, Botanical and Forestry Department. Received March 26, 1908.

22406. GLYCINE HISPIDA (Moench) Maxim. **Soy bean.**
Yellow.

22407. GLYCINE HISPIDA (Moench) Maxim. **Soy bean.**
Black.

22408. VIGNA UNGUICULATA (L.) Walp. **Cowpea.**
Brown-Eye.

22409. PHASEOLUS RADIATUS L. **Mung bean.**

22410. PHASEOLUS ANGULARIS (Willd.) W. F. Wight. **Adzuki bean.**
Red.

22411 to 22415. GLYCINE HISPIDA (Moench) Maxim. **Soy bean.**

From Naples, Italy. Purchased from Dammann & Co. Received March 25, 1908.

22411. *Samarow.*

22412. Black. "Similar to *Cloud.*" (*Nielsen.*)

22413. Brown.

22414. Yellow. "Similar to *Acme.*" (*Nielsen.*)

22415. Giant yellow.

22416 to 22418. MEDICAGO spp.

From Berlin, Germany. Purchased from A. Metz & Co. Received March 24, 1908.

22416. MEDICAGO SATIVA L. **Alfalfa.**

Piedmont.

22417. MEDICAGO SATIVA L. **Alfalfa.**

Provence.

22418. MEDICAGO SATIVA VARIA (Mart.) Urb. **Alfalfa.**

Sand lucern.

22419. PERILLA FRUTESCENS (L.) Britton.

From Ichang, Hupeh, China. Secured by Mr. E. H. Wilson, of the Arnold Arboretum, Jamaica Plain, Mass., in cooperation with this Department. Received March 21, 1908.

"(No. 793, Jan. 23, 1908.) Herb, 3 to 4 feet, cultivated in the mountains in the immediate neighborhood of Ichang, at altitude from 1,000 to 3,500 feet. From the seeds is expressed a sweet, culinary oil, much esteemed by the Chinese locally. The colloquial name is *Tzu ma.*" (*Wilson.*)

22420. CHAETOCHLOA ITALICA (L.) Scribn. **Millet.**

From Mitchell, S. Dak. Purchased from the Dakota Improved Seed Company. Received March 23, 1908.

Kursk. "To be used in classification and varietal tests." (*Vinall.*)

22428. GLYCINE SOJA Sieb. & Zucc.

Grown at Arlington Farm, Virginia, season of 1907, under C. V. P. No. 0474. Received March, 1908.

"Original seed presented by the Botanic Gardens, Tokyo, Japan. A near relative to the soy bean, but a spreading or decumbent plant, abundantly provided with large root nodules. Has considerable promise as a cover or green manure crop." (*Piper.*)

22429. RUSCUS ACULEATUS L. **Butcher's broom.**

From Vomero, Naples, Italy. Presented by Dr. C. Sprenger. Received March 28, 1908.

"An erect (liliaceous) shrub, with minute, bractlike leaves and branches (phyllodia) simulating leathery, persistent, leaflike bodies. The fruits are red berries, one-half inch in diameter; the flowers are small." (*Bailey.*)

22430. CHRYSOPHYLLUM MAGLISMONTANA Sond. **Stem-vrugte.**

From Pretoria, Transvaal. Presented by Prof. J. Burtt Davy, agrostologist and botanist, Transvaal Department of Agriculture. Received March 27, 1908.

"A handsome evergreen shrub or small tree. Requires a warm, temperate climate, but will stand light frost." (*Davy.*)

22431. KYLLINGA BREVIFOLIA Rottb. **Sedge.**

Grown in the Department greenhouse, Washington, D. C., under C. V. P. No. 0569, season 1907–8; numbered, for convenience in distributing, March 28, 1908.

"Original sod received from Mr. A. G. Sullivan, Birmingham, Ala., November 5, 1907. It is a fine-leaved sedge of a very rich green color and a decided stoloniferous habit. It is claimed to be quite aggressive in the lawn of Mr. Sullivan and to take kindly to repeated mowings. To be developed as a lawn plant for the South." (*Vinall.*)

22432 to 22459.

From Peking, Chihli, China. Received through Mr. Frank N. Meyer, agricultural explorer, at the Plant Introduction Garden, Chico, Cal., March 16, 1908.

A collection of cuttings and seeds, as follows:

22432. PYRUS CHINENSIS Lindl. **Pear.**

From Shifengtse Temple, west of Peking, Chihli, China. "(No. 209, Jan. 17, 1908.) A large variety of the so-called Peking pear; round like an apple, of very pale yellow color, and of melting flesh. Can be introduced into the Western World as it is. Formerly sent under No. 109 (S. P. I. No. 16916). Chinese name *Ta pai li.*" (*Meyer.*)

22433. PRUNUS sp. **Plum.**

From Shifengtse Temple, west of Peking, Chihli, China. "(No. 210, Jan. 17, 1908.) A large, red plum, said to be early and very good. Chinese name *Ta hong li tse.*" (*Meyer.*)

22434. MALUS sp. **Crab apple.**

From Hsiendjetse Temple, west of Peking, Chihli, China. "(No. 214, Jan. 21, 1908.) A fine flowering crab apple, of shrubby form, bearing masses of rose-colored flowers followed by edible scarlet crab apples. Chinese name *Hai tang kua.*" (*Meyer.*)

22435. MALUS sp. **Crab apple.**

From Hsiendjetse Temple, west of Peking, Chihli, China. "(No. 215, Jan. 21, 1908.) A variety of the preceding, No. 214 (S. P. I. No. 22434); said to be larger, with flowers of white color, followed by very small fruits." (*Meyer.*)

22436. (Undetermined.)

From Changnantse Temple, west of Peking, Chihli, China. "(No. 220, Jan. 21, 1908.) Tree cuttings, probably a Rhus, but as no leaves could be found it may prove to be something different; the wood is very hard and brittle. The tree is said to be the only specimen around Peking, as a priest assured us." (*Meyer.*)

22437. AMYGDALUS ARMENIACA (L.) Dum. **Apricot.**

From Poliping, west of Peking, Chihli, China. "(No. 224, Jan. 22, 1908.) A large apricot, said to be white with a red tip. Chinese name *Hai tschai ta pai sing.*" (*Meyer.*)

22438. PYRUS CHINENSIS Lindl. **Pear.**

From Poliping, west of Peking, Chihli, China. "(No. 225, Jan. 22, 1908.) A very good pear, nonmelting, but very juicy. The Chinese consider this one of their best pears. A good keeper. Color light yellow, of

22432 to 22459—Continued.

regular pear shape with a long peduncle. There are several distinct varieties of this pear and yet all are called *Yar li.* One form sent in 1905 under No. 119 (S. P. I. No. 16924)." (*Meyer.*)

22439. PYRUS CHINENSIS Lindl. **Pear.**

From Poliping, west of Peking, Chihli, China. "(No. 226, Jan. 22, 1908.) A hard-meated round pear of yellow color with a red cheek, looks like an apple; an extraordinary keeper, even when treated roughly. May be of use as a cooking pear. Chinese name *Hong hsau li.*" (*Meyer.*)

22440. MALUS SYLVESTRIS Mill. **Apple.**

From Poliping, west of Peking, Chihli, China. "(No. 227, Jan. 22, 1908.) A small white apple, called *Pai ping kus*, used in sweetmeats and preserves." (*Meyer.*)

22441. PRUNUS sp. **Plum.**

From Taidjatsoa, west of Pautingfu, Chihli, China. "(No. 240, Jan. 30, 1908.) A large yellow plum, very bushy but growing very vigorously. Said to be good. Chinese name *Huang li tse.*" (*Meyer.*)

22442. PYRUS CHINENSIS Lindl. **Pear.**

From Taidjatsoa, west of Pautingfu, Chihli, China. "(No. 241, Jan. 30, 1908.) A large variety of the so-called *Yar li.* Sent also under Nos. 119 and 225 (S. P. I. Nos. 16924 and 22438). Chinese name of this variety *Ta yar li.*" (*Meyer.*)

22443. PYRUS CHINENSIS Lindl. **Pear.**

From Taidjatsoa, west of Pautingfu, Chihli, China. "(No. 242, Jan. 30, 1908.) A round apple-shaped pear of red color, hard meated but sweet; a good shipper; fit perhaps as a cooking pear. Chinese name *Hong bo li.*" (*Meyer.*)

22444. AMYGDALUS ARMENIACA (L.) Dum. **Apricot.**

From Taidjatsoa, west of Pautingfu, Chihli, China. "(No. 244, Jan. 30, 1908.) An apricot which is said to be half red and half yellow. Chinese name *Hai tang hong sing.*" (*Meyer.*)

22445. AMYGDALUS ARMENIACA (L.) Dum. **Apricot.**

From Taidjatsoa, west of Pautingfu, Chihli, China. "(No. 245, Jan. 30, 1908.) A large yellow apricot with edible sweet kernel. Chinese name *Ta huang sing.*" (*Meyer.*)

22446. AMYGDALUS ARMENIACA (L.) Dum. **Apricot.**

From Taidjatsoa, west of Pautingfu, Chihli, China. "(No. 246, Jan. 30, 1908.) A small red apricot of sweet taste and with edible sweet kernel. Chinese name *Shau hong sing.*" (*Meyer.*)

22447. POPULUS BALSAMIFERA SUAVEOLENS (Fisch.) Wesm. **Poplar.**

From Taidjatsoa, west of Pautingfu, Chihli, China. "(No. 247, Jan. 30, 1908.) An extraordinary slender form of *Populus suaveolens.* A beautiful tree when planted in a row along a water course with the western sky as background. Chinese name *Pau yang shu.* For other remarks see No. 230 (S. P. I. No. 22363)." (*Meyer.*)

22448. MORUS ALBA L. **Mulberry.**

From Taidjatsoa, west of Pautingfu, Chihli, China. "(No. 248, Jan. 30, 1908.) A wild form of the mulberry growing into medium-sized, well-formed trees. Apparently a distinct form. Chinese name *Sang shu.*" (*Meyer.*)

22449. ROSA sp. **Rose.**

From Pautingfu, Chihli, China. "(No. 249, Jan. 30, 1908.) Said to be a beautiful, yellow rambler rose, flowering with an abundance of flowers. Obtained from the garden of the American Presbyterian Mission in Pautingfu, who procured it from a Chinese nurseryman." (*Meyer.*)

22432 to 22459—Continued.

22450. SALIX sp. **Willow.**

From near Pautingfu, Chihli, China. "(No. 250, Jan. 30, 1908.) The ordinary willow which grows excellently everywhere on the dry lands in North China. Needs no water supply beyond a scanty summer rainfall." (*Meyer.*)

22451. MORUS ALBA L. **Mulberry.**

From Peking, Chihli, China. "(No. 253, Feb. 10, 1908.) A tall-growing mulberry, bearing entire, oblong leaves. Grows here and there in Peking in gardens and is a good shade tree." (*Meyer.*)

22452. ROSA XANTHINA Lindl. **Rose.**

From Peking, Chihli, China. "(No. 254, Feb. 10, 1908.) A semidouble yellow rose of very thrifty growth. Nonfragrant, but extraordinarily floriferous. Blooms but once a year. See Nos. 67 and 68 (S. P. I. No. 17469) for other remarks." (*Meyer.*)

22453. ROSA RUGOSA Thunb. **Rose.**

From Peking, Chihli, China. "(No. 255, Feb. 10, 1908.) A double so-called Japanese rose, although it is a native of North China. This variety grows only 2 to 4 feet high and bears large magenta-colored flowers of very sweet odor. The petals of these roses are very much esteemed by the Chinese for flavoring their tea, perfuming their rooms, and to use in toilet waters. They are grown in large quantities for these purposes." (*Meyer.*)

22454. CELTIS sp. **Hackberry.**

From Hsiling, Chihli, China. "(No. 904a, Jan. 25, 1908.) A small-leaved Celtis, growing into a small-sized ornamental tree. Can stand lots of drought. The galls of this tree are, like those of the following number (S. P. I. No. 22455), eaten by the Chinese after the insect has been taken out. They are said to taste like cucumbers." (*Meyer.*)

22455. CELTIS sp. **Hackberry.**

From near Taidjatsoa, west of Pautingfu, Chihli, China. "(No. 905a, Jan. 31, 1908.) A tall Celtis, of use as a shade tree. Called in Chinese *Shan huang kwa shu*, which means wild cucumber tree, on account of the peculiar galls which infest this tree, which are eaten and taste like wild cucumbers, so they say." (*Meyer.*)

22456. PINUS BUNGEANA Zucc. **Pine.**

From Changnantse Temple, west of Peking, Chihli, China. "(No. 906a, Jan. 21, 1908.) The most glorious of all pines. See notes to Nos. 137a and 139a (S. P. I. No. 17912). Chinese name *Pai huorr sung shu*." (*Meyer.*)

22457. XANTHOCERAS SORBIFOLIA Bunge.

From Changnantse Temple, west of Peking, Chihli, China. "(No. 907a, Jan. 23, 1908.) This beautiful flowering shrub, which sometimes grows into a small tree, is often found in the temple courts and is well worth planting. Seeds formerly sent under No. 11a (S. P. I. No. 18264). Chinese name *Mu kua hua*." (*Meyer.*)

22458. CERCIS CHINENSIS Bunge.

From Changnantse Temple, west of Peking, Chihli, China. "(No. 908a, Jan. 23, 1908.) The Chinese red-bud, a very ornamental bush when in flower; blooms before the leaves are out. Leaves large, glossy green, and more or less heart shaped. Grows to be 10 to 12 feet high and stands droughts very well. Chinese name *Tze ching*." (*Meyer.*)

22459. BRASSICA OLERACEA L. **Cabbage.**

From Taidjatsoa, west of Pautingfu, Chihli, China. "(No. 909a, Jan. 30, 1908.) A very solid, oblong cabbage with the leaves overlapping

22432 to 22459—Continued.

each other, a rare thing with Chinese cabbage. Very much esteemed locally. Needs a rich, well-irrigated soil. Sow in June, transplant in early September. 2 feet apart in each direction, take up after the first frost and store in cool, frostproof pit." (*Meyer.*)

22460 and 22461. Cupressus spp. Cedar.

From Paris, France. Purchased from Vilmorin-Andrieux & Co. Received March 27, 1908.

22460. Cupressus benthami knightiana (Perry) Mast.

22461. Cupressus benthami lindleyi (Klotzsch) Mast.

22463 and 22464. Stizolobium spp.

From Saharunpur, Northwest Province, British India. Presented by Mr. A. C. Hartless, superintendent, Government Botanic Gardens. Received March 30, 1908.

22463. Stizolobium niveum (Roxb.) Kuntze.

(For description see No. 19181.)

22464. Stizolobium capitatum (Roxb.) Kuntze.

22465. Medicago sativa L. Alfalfa.

From Guaranda, Ecuador. Presented by Father Luis Sodiro, through Mr. C. J. Brand. Received March, 1908.

Morada or *Guaranda.* "This alfalfa is extensively grown in the Province of Bolivar at altitudes of 6,000 to 9,000 feet. Methods of cultivation, etc., are described in Bulletin No. 118, Bureau of Plant Industry." (*Brand.*)

22466. Medicago sativa L. Alfalfa.

From Lima, Peru. Presented by Prof. George Vanderghen, director of the Escuela Nacional de Agricultura, through Mr. C. J. Brand. Received March, 1908.

Monsefu. "This alfalfa is quite commonly cultivated in Peru; yields more cuttings and is more hairy, woody, and hollow stemmed than ordinary or Chilean alfalfa." (*Brand.*)

22467. Medicago sativa L. Alfalfa.

From Oberschüpf in Baden, Germany. Secured from Mr. Ludwig Keller, landwirth, through Mr. C. J. Brand. Received March, 1908.

Alt Deutsche Frankische. "(P. L. H. No. 3321.) This alfalfa has been grown for some years in south Germany on soils rich in shells and jurassic lime. It is grown especially in the vineyard regions, where a specialty is made of seed production. For this purpose fields having a southern exposure are given preference. When grown between the rows of grapes it gives its highest yields. Practically nothing is known of injury from dodder where this strain is grown, which has led to a belief among some growers in Baden that it is immune to dodder. This, however, is not the case. Sections where this *Old German Frankonian* lucern is grown are little adapted, on account of climatic conditions, to seed production, and it is said that this strain is the only one which has given satisfactory results. The seed is generally sown broadcast under barley. After the first year many growers throw the lucern into rows by hoeing. This enables the lower heads on the plants to mature their seed, and also tends to give a more uniformly ripe product.

"The first cutting is made when the lucern is about half grown (60 centimeters high), in order that the second crop may have time to mature its seed by September. Hulling machinery is uncommon in south Germany, so that pods are thrashed from the straw and then stored in the granary until winter. This method permits a certain amount of after-ripening and also in a measure

22467—Continued.

protects the seed from rodents. Thrashing and screening are done in winter, when the seed is finally made ready for market and sold. Lucern seed grown in this way can not, of course, be sold at the same price as ordinary French, Italian, and *Provence* seed.

"*Alt Deutsche Frankische* lucern is said to be hardier than the ordinary kinds and, on this account, to give greater yields. Fields of it are also said to endure longer than other kinds. While *Provence* lasts from six to eight years, *Old German Frankonian* gives good yields from ten to fifteen years. My correspondent states that the average yield is about 200 pounds per 120 square yards (2 zentner pro ar). The grower from whom this seed was secured has a field 25 years old whose stand is so good that it is still profitable. He states that when the *Provence* alfalfa becomes yellow and loses its lower leaves, which occurs both from drought and excessive moisture, *Frankonian* remains fresh and grows up again immediately after harvesting." (*Brand.*)

22468 to 22486. CORYLUS AVELLANA L. **Filbert.**

From Nevada City, Cal. Purchased from Mrs. Felix Gillet, Barren Hill Nurseries. Received at the Plant Introduction Garden, Chico, Cal., March 18, 1908.

The following plants, with descriptions by Mrs. Gillet:

22468. *Du Chilly Cobnut.*

Large and long, fine.

22469. *Col. Filbert.*

22470. *Brunswick.*

22471. *Bysance.*

A good grafting stock.

22472. *D'Alger.*

22473. *Geante des Halles.*

22474. *Noce Lunghe.* (Istria, 1901, Dept.)

Finest of all.

22475. *Nottingham.*

22476. *Aveline Grosse Ronde.* (Belgium, 1898, Dept.)

22477. *Emperor.* (Belgium, 1898, Dept.)

22478. *Kentish Cob.*

Long, large.

22479. *Belgium*, 1898, Dept.

22480. *Montebello.* (Sicily, 1905, Dept.)

22481. *White Aveline.*

Thin shell, white pellicle.

22482. *Red Aveline.*

Thin shell, red pellicle.

22483. *Purple-Leafed Aveline.*

Very ornamental.

22484. *Grosse Blanche of England.*

Similar to Barcelona.

22485. *Daviana.*

Medium large, very pretty.

22486. *Barcelona.*

Large, round.

22487. BAMBOS ARUNDINACEA Retz. **Bamboo.**

From Saint Symphorien, Belgium. Presented by Mr. Jean Houzeau de Lehaie. Received March 30, 1908.

(For description see No. 21317.)

22488. CICER ARIETINUM L. **Chick-pea.**

From Mexico City, Mexico. Purchased from Prof. Felix Foex, National School of Agriculture. Received April 1, 1908.

(For description see Nos. 10974 and 11634.)

22489 to 22492.

From Guelph, Ontario, Canada. Presented by Prof. C. A. Zavitz, Agricultural College, through Mr. N. H. Vinall. Received April 1, 1908.

22489. CHAETOCHLOA ITALICA (L.) Scribn. **Millet.**

California.

22490. PANICUM MILIACEUM L. **Proso millet.**

Red French.

22491. CHAETOCHLOA ITALICA (L.) Scribn. **Millet.**

Holy Terror Gold Mine.

22492. PANICUM MILIACEUM L. **Proso millet.**

Japanese Panicle.

"The above are to be used in classification work and varietal tests." (*Vinall.*)

22496 and 22497.

From Lahore, Punjab, British India. Presented by Mr. W. R. Mustoe, superintendent, Government Historical Gardens. Received March 16, 1908.

22496. BEAUMONTIA GRANDIFLORA (Roxb.) Wall.

"A climbing, woody vine. Leaves opposite, short petioled, oblong, 6 to 8 inches long, 2 to 5 inches wide, entire. Flowers greenish yellow, in axillary cymes. Corolla bell shaped, about 5 inches across, five lobed, margin wavy. * * * Seed takes nearly one year to ripen." (*Roxburgh.*)

"Nomen bengalense: Dhootura Luta." (*Wall.*)

22497. BOMBAX MALABARICUM DC.

"One of the largest of the Indian trees, often 100 feet high. Leaves alternate, long petioled, digitate. Leaflets, 5 to 7, lanceolate, 6 to 12 inches long, entire, smooth on both sides. Covered with large red flowers early in spring, before the leaves appear.

"*Salmuli*, the Sanscrit name; Beng. *Simul;* Teling. *Boorgha.*" (*Roxburgh, Flora Indica*, vol. 3, p. 167.)

22498 to 22502.

From Hangchow, Chehkiang, China. Presented by Dr. D. Duncan Main, through Mr. J. M. W. Farnham, Shanghai, China. Received March 26, 1908.

22498 to 22501. GLYCINE HISPIDA (Moench) Maxim. **Soy bean.**

22498. Yellow. Similar to No. 18619.

22499. Yellow.

22500. Green. Similar to No. 17857.

22501. Black.

22502. PISUM ARVENSE L. **Field pea.**

Varietal descriptions of the above were made by Mr. H. T. Nielsen.

22503 to 22510.

From Yokohama, Japan. Purchased from L. Boehmer & Co. Received March 31, 1908.

The following seeds with Japanese names quoted; varietal descriptions by Mr. H. T. Nielsen:

22503 to 22507. GLYCINE HISPIDA (Moench) Maxim. **Soy bean.**

22503. "*Teppo Mame.*"

Yellow, similar in appearance to *Amherst*, No. 17275.

22504. "*Kaze Mame.*"

Green.

22505. "*Gogwatsu Mame.*"

Yellow, similar to *Haberlandt*, No. 17271.

22506. "*Maru Mame.*"

Yellow.

22507. "*Vieuri Lei.*"

Green, similar to *Yosho*, No. 17262.

22508 and 22509. PHASEOLUS ANGULARIS (Willd.) W. F. Wight. **Adzuki bean.**

22508. Red.

22509. "*Shiro.*"

Yellow.

22510. PHASEOLUS RADIATUS L. **Mung bean.**

"*Runda Mame.*"

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